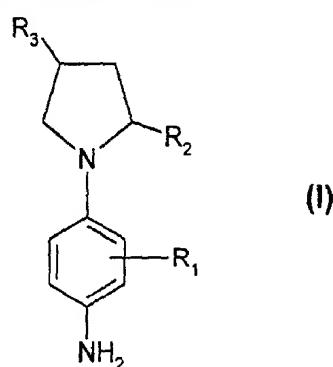


WHAT IS CLAIMED:

1. A composition for oxidation dyeing keratinous fibers, in a medium suitable for dyeing:
 - (i) at least one oxidation dye precursor chosen from 1-(4-aminophenyl)pyrrolidines of formula (I) and acid addition salts thereof:



wherein:

R₁ is chosen from a hydrogen atom, (C₁-C₆)alkyl groups, (C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups;

R₂ is chosen from a hydrogen atom, a -CONH₂ group, C₁-C₅ monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups;

R₃ is chosen from a hydrogen atom, and a hydroxyl group; and

- (ii) at least one direct dye chosen from nitrobenzene dyes and cationic dyes, wherein said cationic dyes comprise a quaternized nitrogen atom and a -Z=D- group wherein, Z and D, which are identical or different, are each chosen from a nitrogen atom and a -CH- group.

2. A composition according to claim 1, wherein said R₁, said R₂ and said R₃ are each a hydrogen atom.

3. A composition according to claim 1, wherein said R₁ and said R₃ are each a hydrogen atom and said R₂ is a -CH₂OH group.

4. A composition according to claim 1, wherein said R₁ is a hydrogen atom, said R₂ is a -CH₂OH group and said R₃ is a hydroxyl group.

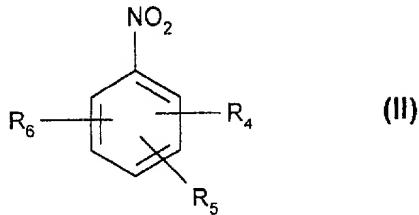
5. A composition according to Claim 1, wherein said R₁ and said R₃ are each a hydrogen atom and said R₂ is a -CONH₂ group.

6. A composition according to claim 1, wherein said acid addition salts are chosen from hydrochlorides, hydrobromides, sulphates, tartrates, lactates and acetates.

7. A composition according to claim 1, wherein said at least one oxidation dye precursor chosen from the 1-(4-aminophenyl)pyrrolidines of formula (I) and acid addition salts thereof is present in said composition in an amount ranging from 0.001 to 10% by weight relative to the total weight of said composition.

8. A composition according to claim 7, wherein said at least one oxidation dye precursor chosen from the 1-(4-aminophenyl)pyrrolidines of formula (I) and acid addition salts thereof is present in said composition in an amount ranging from 0.01 to 8% by weight of the total weight of said composition.

9. A composition according to claim 1, wherein said nitrobenzene dyes are chosen from compounds of formula (II):



wherein:

- R₄ is chosen from:

an amino radical optionally substituted with one or two groups chosen from (C₁-C₄)alkyl groups, (C₁-C₄)monohydroxyalkyl groups, (C₂-C₄)polyhydroxyalkyl groups, (C₁-C₄)aminoalkyl groups, mono((C₁-C₄)alkyl)amino((C₁-C₄)alkyl) groups, di((C₁-C₄)alkyl)amino((C₁-C₄)alkyl) groups, (C₁-C₄)ureidoalkyl groups **a hydroxyl group** and aryl groups; and aryl groups optionally substituted with at least one group chosen from a hydroxyl group, a carboxyl group, an amino group and di((C₁-C₄)alkyl)amino groups;

- R₅ is chosen from:

a hydrogen atom; a hydroxyl group; (C₁-C₄)alkyl groups; C₁-C₄ alkoxy groups; (C₁-C₄)monohydroxyalkyl groups; (C₂-C₄)polyhydroxyalkyl groups; (C₁-C₄)monohydroxyalkoxy groups; (C₂-C₄)polyhydroxyalkoxy groups; (C₁-C₄)aminoalkoxy groups; an amino radical optionally substituted with one or two groups chosen from (C₁-C₄)alkyl groups,

(C₁-C₄)monohydroxyalkyl groups,
(C₂-C₄)polyhydroxyalkyl groups, (C₁-C₄)aminoalkyl groups,
mono((C₁-C₄)alkyl)amino((C₁-C₄)alkyl) groups,
di((C₁-C₄)alkyl)amino((C₁-C₄)alkyl) groups, (C₁-C₄)ureidoalkyl groups and aryl
groups; and aryl groups optionally substituted with at least one group chosen
from a hydroxyl group, a carboxyl group, an amino group and
di((C₁-C₄)alkyl)amino groups;

- R₆ is chosen from: a hydrogen atom; a halogen atom; (C₁-C₄)alkyl groups; and a nitro
group.

10. A composition according to Claim 1, wherein said nitrobenzene direct
dyes are chosen from:

- 2-amino-4-methyl-5-N-(β-hydroxyethyl)aminonitrobenzene,
- 4-N-(β-ureidoethyl)aminonitrobenzene,
- 4-(N-ethyl-N-β-hydroxyethyl)amino-1-N-(β-hydroxyethyl)aminonitrobenzene,
- 2-N-(β-hydroxyethyl)amino-5-methylnitrobenzene,
- 5-chloro-3-N-(ethyl)amino-4-hydroxynitrobenzene,
- 5-amino-3-chloro-4-hydroxynitrobenzene,
- 2-N-(γ-hydroxypropyl)amino-5-N,N-bis(β-hydroxyethyl)aminonitrobenzene,
- 5-hydroxy-2-N-(γ-hydroxypropyl)aminonitrobenzene,
- 1,3-bis(β-hydroxyethyl)amino-4-chloro-6-nitrobenzene,
- 2,4-diaminonitrobenzene,
- 3,4-diaminonitrobenzene,
- 2,5-diaminonitrobenzene,

- 3-amino-4-hydroxynitrobenzene,
- 4-amino-3-hydroxynitrobenzene,
- 5-amino-2-hydroxynitrobenzene,
- 2-amino-5-hydroxynitrobenzene,
- 4-amino-3-hydroxynitrobenzene,
- 5-amino-2-hydroxynitrobenzene,
- 2-amino-3-hydroxynitrobenzene,
- 2-amino-5-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-amino-5-N,N-bis(β -hydroxyethyl)aminonitrobenzene,
- 2,5-N,N'-bis(β -hydroxyethyl)aminonitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5-N,N-bis(β -hydroxyethyl)aminonitrobenzene,
- 2-amino-5-N-(methyl)aminonitrobenzene,
- 2-N-(methyl)amino-5-N,N-bis(β -hydroxyethyl)aminonitrobenzene,
- 2-N-(methyl)amino-5-(N-methyl-N- β -hydroxyethyl)aminonitrobenzene,
- 2,5-N,N'-(β -hydroxyethyl)aminonitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5-hydroxynitrobenzene,
- 3-methoxy-4-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-N-(methyl)amino-4- β -hydroxyethyloxynitrobenzene,
- 2-amino-3-methylnitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5-aminonitrobenzene,
- 2-amino-4-chloro-5-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-amino-4-methyl-5-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-amino-4-methyl-5-N-(methyl)aminonitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5-methoxynitrobenzene,

- 2-amino-5- β -hydroxyethoxy nitrobenzene,
- 2-N-(β -hydroxyethyl)aminonitrobenzene,
- 3-amino-4-N-(β -hydroxyethyl)aminonitrobenzene,
- 3- β -hydroxyethoxy-4-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-N-(methyl)amino-4- β,γ -dihydroxypropoxy nitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5- β -hydroxyethoxy nitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5- β,γ -dihydroxypropoxy nitrobenzene,
- 2-hydroxy-4-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-N-(methyl)amino-4-methyl-5-aminonitrobenzene,
- 2-amino-4-isopropyl-5-N-(methyl)aminonitrobenzene,
- 2-N-(methyl)amino-5-(N-methyl-N- β,γ -dihydroxypropyl)aminonitrobenzene,
- 3-N-(β -hydroxyethyl)amino-4-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-amino-4-methyl-5-N-(β,γ -dihydroxypropyl)aminonitrobenzene,
- 2-amino-4-methyl-5-hydroxynitrobenzene,
- 2-N-(β -hydroxyethyl)amino-4-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-amino-5-N-(β -aminoethyl)aminonitrobenzene,
- 2-N-(β -aminoethyl)amino-5-methoxynitrobenzene,
- 2-N-(methyl)amino-5-N-(β -aminoethyl)aminonitrobenzene,
- 2-N-(β -aminoethyl)amino-4-N,N-(dimethyl)aminonitrobenzene,
- 3-amino-4-N-(β -aminoethyl)aminonitrobenzene,
- 2-amino-4-methyl-5-N-(β -aminoethyl)aminonitrobenzene,
- 2-N-(β -aminoethyl)amino-5-N,N-bis(β -hydroxyethyl)aminonitrobenzene,
- 3- β -aminoethoxy-4-aminonitrobenzene,
- 2-N-(methyl)amino-5-(N- δ -amino-n-butyl)aminonitrobenzene,

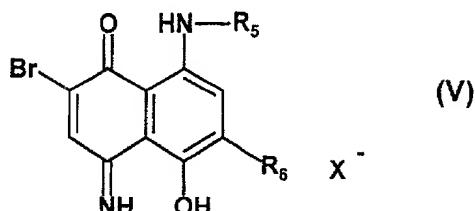
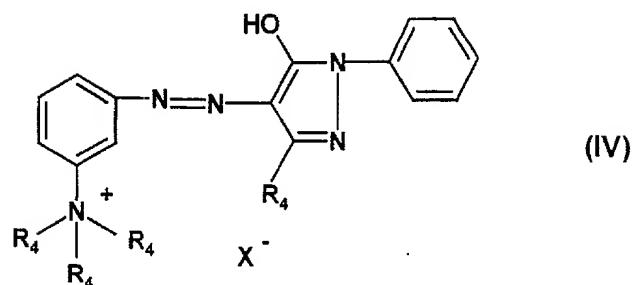
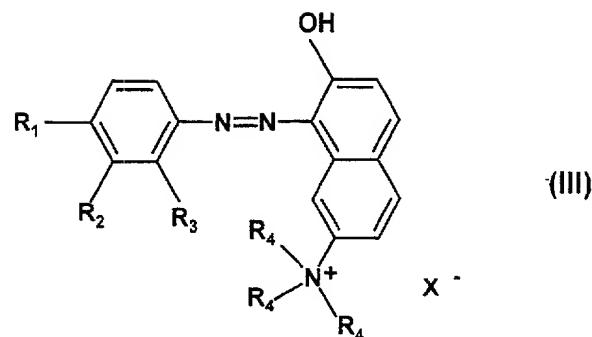
- 2-N-(γ -amino-n-propyl)amino-5-N,N-(dimethyl)aminonitrobenzene,
- 3-methoxy-4-N-(β -aminoethyl)aminonitrobenzene,
- 2-N-(β -aminoethyl)amino-5-aminonitrobenzene,
- 2-amino-4-chloro-5-N-(β -aminoethyl)aminonitrobenzene,
- 2-N-(β -aminoethyl)amino-4-methoxynitrobenzene,
- 2-N-(β -aminoethyl)aminonitrobenzene,
- 2-N-(β -aminoethyl)amino-5-N-(β -aminoethyl)aminonitrobenzene,
- 2-N-(β -aminoethyl)amino-4- β -hydroxyethyloxynitrobenzene,
- 3- β -hydroxyethyloxy-4-N-(β -aminoethyl)aminonitrobenzene,
- 2-amino-5-aminoethyloxynitrobenzene,
- 3-hydroxy-4-N-(β -aminoethyl)aminonitrobenzene,
- 2-N-(β -aminoethyl)amino-5- β -hydroxyethyloxynitrobenzene,
- 2-N-(β -aminoethyl)amino-4-hydroxynitrobenzene,
- [2-N-hydroxy-2-N-(β -hydroxyethyl)amino]-3-nitro-6benzyloxy-2-ethylamine, and
- [2-N-hydroxy-2-N-(β -hydroxypropyl)amino]-3-nitro-6-benzyloxy-2-ethylamine.

11. A composition according to Claim 1, said nitrobenzene dyes are chosen from:

- 2-amino-4-methyl-5-N-(β -hydroxyethyl)aminonitrobenzene,
- 4-N-(β -ureidoethyl)aminonitrobenzene,
- 4-(N-ethyl-N- β -hydroxyethyl)amino-1-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5-methylnitrobenzene,
- 5-chloro-3-N-(ethyl)amino-4-hydroxynitrobenzene,
- 5-amino-3-chloro-4-hydroxynitrobenzene,

- 2-N-(γ -hydroxypropyl)amino-5-N,N-bis(β -hydroxyethyl)aminonitrobenzene,
- 5-hydroxy-2-N-(γ -hydroxypropyl)aminonitrobenzene,
- 1,3-bis(β -hydroxyethyl)amino-4-chloro-6-nitrobenzene,
- 3,4-diaminonitrobenzene,
- 2-amino-5-hydroxynitrobenzene,
- 2-amino-3-hydroxynitrobenzene,
- 2-amino-5-N-(β -hydroxyethyl)aminonitrobenzene,
- 2-amino-5-N,N-bis(β -hydroxyethyl)aminonitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5-N,N-bis(β -hydroxyethyl)aminonitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5-hydroxynitrobenzene,
- 2-N-(β -hydroxyethyl)amino-5-aminonitrobenzene,
- 2-N-(β -aminoethyl)amino-4-methoxynitrobenzene, and
- 2-N-(β -aminoethyl)amino-5- β -hydroxyethoxy nitrobenzene.

12. A composition according to Claim 1, wherein said cationic dyes are chosen from compounds of formulae (III), (IV) and (V):



wherein:

R_1 is chosen from a hydrogen atom and an amino group;

R_2 is chosen from a hydrogen atom and a nitro group;

R_3 is chosen from a hydrogen atom, a nitro group and (C_1-C_4)alkoxy groups;

R_4 which are identical or different, are each chosen from (C_1-C_4)alkyl groups;

R_5 is chosen from a hydrogen atom and NH-para-tri((C_1-C_4)alkyl)ammoniophenyl groups;

R_6 is chosen from a bromine atom and NH-para-tri((C_1-C_4)alkyl)ammoniophenyl groups;

and

X^- is an anion; and

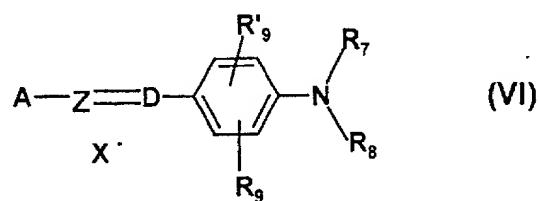
mesomeric forms of the compounds of formulae (III), (IV) and (V).

13. A composition according to claim 12, wherein said X⁻ is an anion chosen from a chloride anion, a methylsulfate anion and an acetate anion.

14. A composition according to Claim 1, wherein said cationic dyes are chosen:

- . 8-[(4-aminophenyl)azo]-7-hydroxy-2-trimethylammonionaphthalene,
- . 8-[(2-methoxyphenyl)azo]-7-hydroxy-2-trimethylammonionaphthalene,
- . 8-[(4-amino-3-nitrophenyl)azo]-7-hydroxy-2-trimethylammonionaphthalene,
- . 8-[(4-amino-2-nitrophenyl)azo]-7-hydroxy-2-trimethylammonionaphthalene,
- . 3-[(3-methyl-5-hydroxy-1-phenyl-1H-pyrazol-4-yl)azo]trimethylammoniobenzene,
- . 3-[(4-amino-6-bromo-5,8-dihydro-1-hydroxy-8-imino-5-oxo-2-naphthalenyl)amino]trimethylammoniobenzene, and
- . 3-[(3,7-dibromo-5,8-dihydro-4-hydroxy-5-imino-8-oxo-1-naphthalenyl)amino]trimethylammoniobenzene.

15. A composition according to claim 1, wherein said cationic dyes are chosen from compounds of formulae(VI):



wherein:

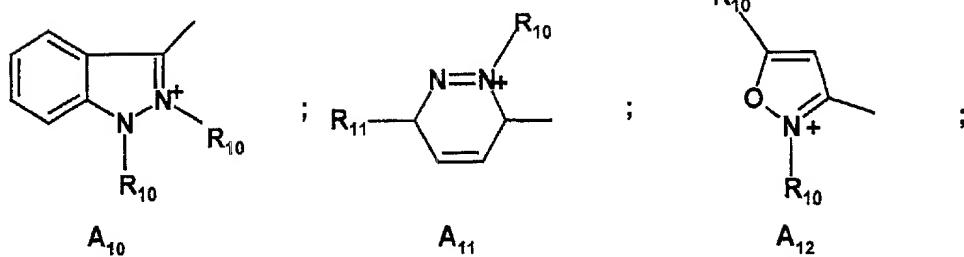
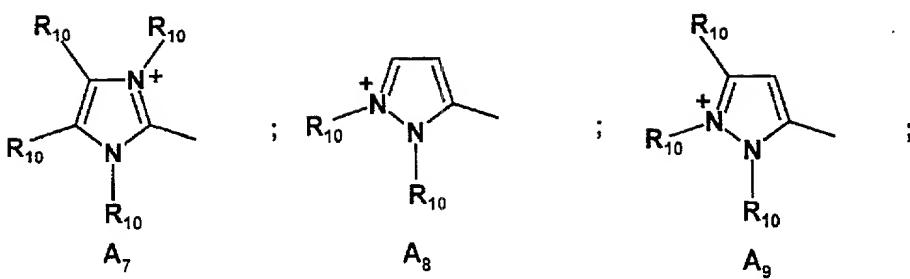
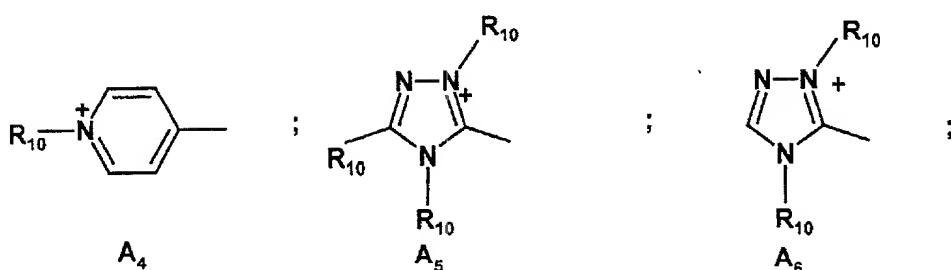
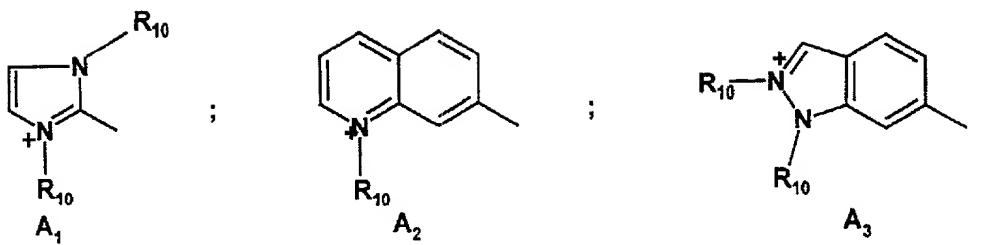
Z and D, which are identical or different, are each chosen from a nitrogen atom and a -CH-group;

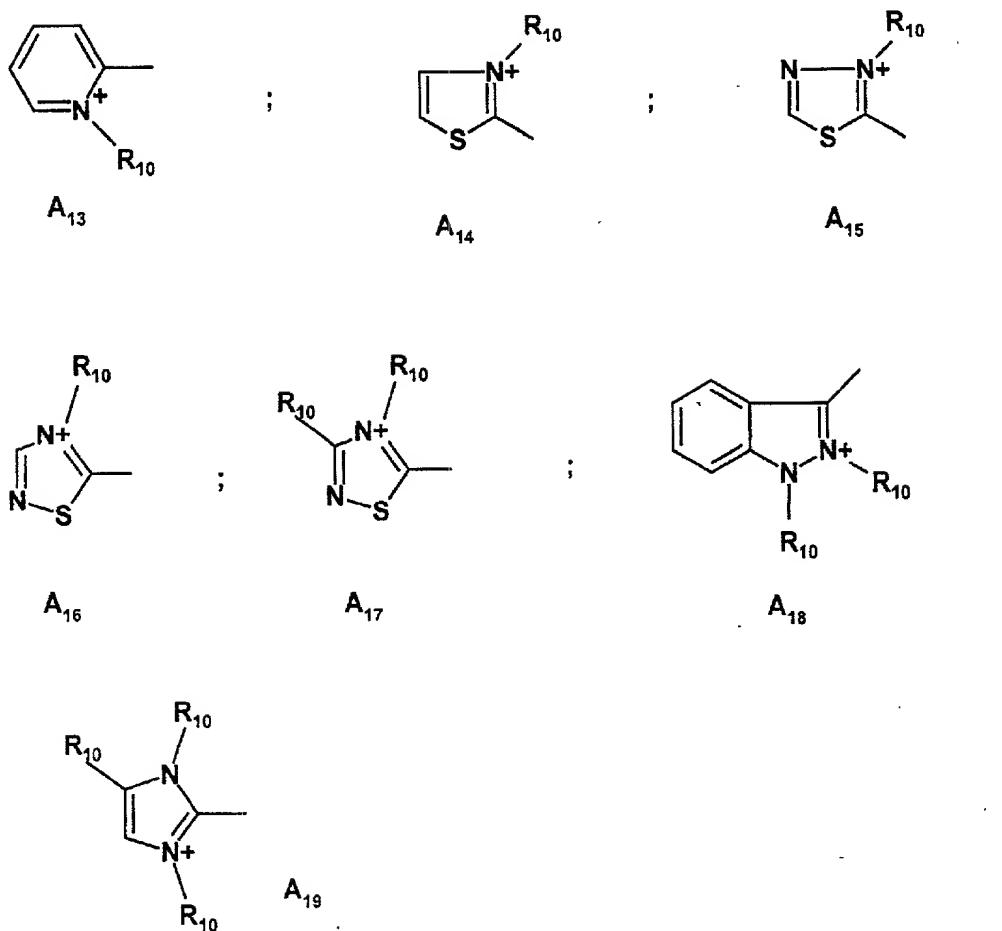
R₇ and R₈, which are identical or different are each chosen from a hydrogen atom, a 4'-aminophenyl group, and (C₁-C₄)alkyl groups, wherein said (C₁-C₄)alkyl groups are optionally substituted with a group chosen from a -CN group, a hydroxyl group and an -NH₂ group, and optionally wherein one of said R₇ and said R₈, together with a carbon atom of the benzene ring of formula (VI), forms a nitrogenous heterocycle optionally substituted with at least one group chosen from (C₁-C₄)alkyl groups, wherein said nitrogenous heterocycle optionally further comprises at least one heteroatom chosen from an oxygen atom and a nitrogen atom;

R₉ and R'₉, which are identical or different, are each chosen from a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, a cyano group, (C₁-C₄)alkyl groups, (C₁-C₄)alkoxy groups and acetoxy groups;

X⁻ is an anion; and

A is chosen from groups of formulae A1 A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18 and A19:



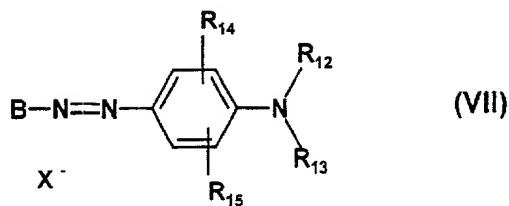


wherein:

R₁₀ is the same or different, and each is chosen from (C₁-C₄)alkyl groups optionally substituted with at least one hydroxyl radical; and

R₁₁ is chosen from (C₁-C₄)alkoxy groups.

16. A composition according to claim 1, wherein said cationic dyes are chosen from compounds of formulae(VII):



wherein:

R₁₂ is chosen from a hydrogen atom, and (C₁-C₄)alkyl groups;

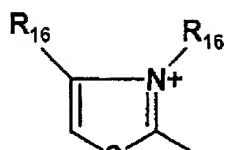
R₁₃ is chosen from a hydrogen atom, a 4'-aminophenyl group, and (C₁-C₄)alkyl groups,

wherein said (C₁-C₄)alkyl groups are optionally substituted with a group chosen from a -CN group and an amino group, and optionally wherein said R₁₃, together with said R₁₂, forms a nitrogenous heterocycle optionally substituted with at least one group chosen from (C₁-C₄)alkyl groups, wherein said nitrogenous heterocycle optionally further comprises at least one heteroatom chosen from an oxygen atom and a nitrogen atom;

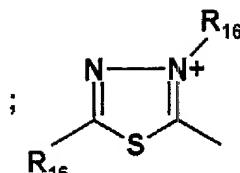
R₁₄ and R₁₅, which are identical or different, are each chosen from a hydrogen atom, a halogen atom chosen from bromine, chlorine, iodine and fluorine, (C₁-C₄)alkyl groups, (C₁-C₄)alkoxy groups, and a -CN group;

X⁻ is an anion;

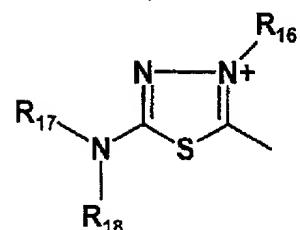
B is chosen from groups of formulae B1, B2, B3, B4, B5 and B6:



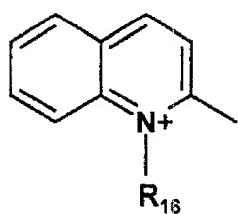
B1



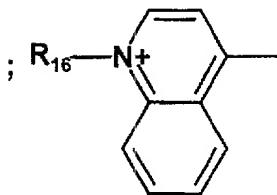
B2



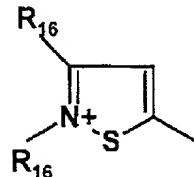
B3



B4



B5



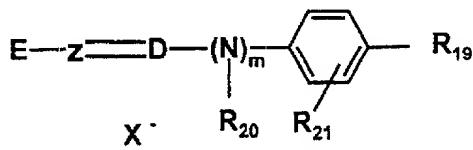
B6

wherein:

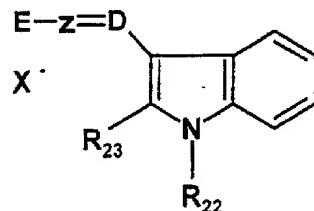
R₁₆ is identical or different and each is chosen from (C₁-C₄)alkyl groups, and

R₁₇ and R₁₈, which are identical or different, are each chosen from a hydrogen atom and (C₁-C₄)alkyl groups.

17. A composition according to claim 1, wherein said cationic dyes are chosen from compounds of formulae(VIII) and (VIII'):



(VIII)



(VIII')

wherein:

Z and D, which are identical or different, are each chosen from a nitrogen atom and a -CH-group;

R₁₉ is chosen from a hydrogen atom, (C₁-C₄)alkoxy groups, an amino group, and a halogen atom chosen from bromine, chlorine, iodine and fluorine;

R₂₀ is chosen from a hydrogen atom, and (C₁-C₄)alkyl groups and optionally, wherein said R₂₀, together with a carbon atom of the benzene ring forms a nitrogenous heterocycle, wherein said nitrogenous heterocycle is optionally substituted with at least one group chosen from (C₁-C₄)alkyl groups, and optionally, wherein said nitrogenous heterocycle further comprises a member, wherein said member is an oxygen atom;

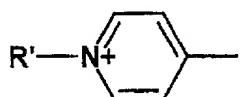
R₂₁ is chosen from a hydrogen atom and a halogen atom chosen from bromine, chlorine, iodine and fluorine;

R₂₂ and R₂₃, which are identical or different, are each chosen from a hydrogen atom and (C₁-C₄)alkyl groups;

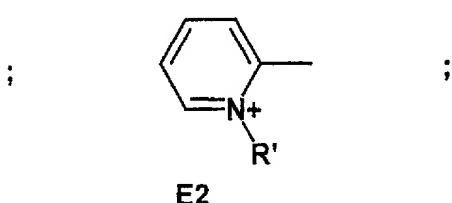
m is an integer equal to 0 or 1;

X⁻ is an anion;

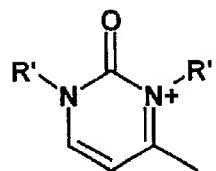
E is chosen from groups of formulae E1, E2, E3, E4, E5, E6, E7, and E8:



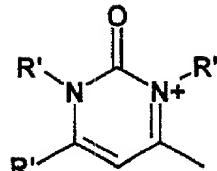
E1



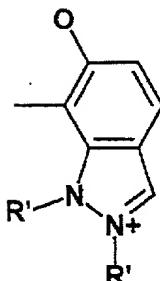
E2



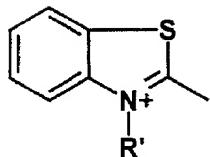
E3



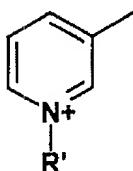
E4



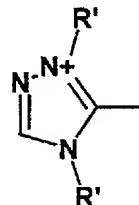
E5



E6



E7



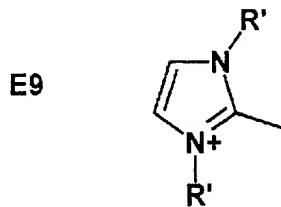
E8

wherein:

R' is identical or different, and each is chosen from (C₁-C₄)alkyl groups; and

provided that:

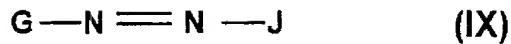
when m is equal to 0 and D is a nitrogen atom, then E is a group of formula E9:



wherein:

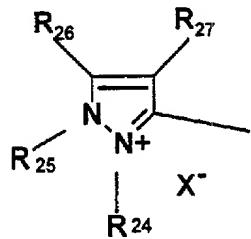
R', which are identical or different , are each chosen from (C₁-C₄)alkyl groups;

18. A composition according to claim 1, wherein said cationic dyes are chosen from compounds of formulae(IX):

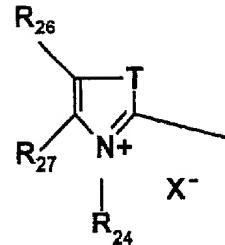


wherein:

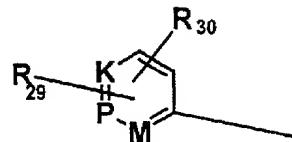
G is chosen from groups of formulae G_1 , G_2 and G_3 :



G_1



G_2



G_3

wherein:

R_{24} is chosen from (C_1-C_4)alkyl groups, a phenyl group, wherein said phenyl group is optionally substituted with a group chosen from (C_1-C_4)alkyl groups, and a halogen atom chosen from chlorine, bromine, iodine and fluorine;

R_{25} is chosen from (C_1-C_4)alkyl groups and a phenyl group;

R_{26} is chosen from (C_1-C_4)alkyl groups, a hydrogen atom and a phenyl group;

R_{27} is chosen from (C_1-C_4)alkyl groups and a phenyl group;

provided that:

when said R₂₆ is other than a hydrogen atom, R₂₆ and R₂₇ optionally form a benzene ring, wherein said benzene ring is optionally substituted with at least one group chosen from (C₁-C₄)alkyl groups, (C₁-C₄)alkoxy groups, and a NO₂ group;

T is chosen from an oxygen atom, a sulfur atom and a group -NR₂₅, wherein R₂₅ is defined as above;

M is chosen from a -CH group, a -CR group, wherein R is chosen from (C₁-C₄)alkyl groups, and -N⁺R₂₈(X⁻)_r groups, wherein R₂₈ is chosen from an O⁻, (C₁-C₄)alkoxy groups, and (C₁-C₄)alkyl groups and r is an integer equal to 0 or 1;

K is chosen from a -CH group, a -CR group, wherein R is chosen from (C₁-C₄)alkyl groups, and -N⁺R₂₈(X⁻)_r groups, wherein R₂₈ is chosen from an O⁻, (C₁-C₄)alkoxy groups, and C₁-C₄ alkyl groups and r is an integer equal to 0 or 1;

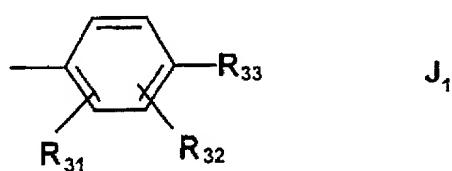
P is chosen from a -CH group, a -CR group, wherein R is chosen from (C₁-C₄)alkyl groups, and -N⁺R₂₈(X⁻)_r groups, wherein R₂₈ is chosen from an O⁻, (C₁-C₄)alkoxy groups, and (C₁-C₄)alkyl groups and r is an integer equal to 0 or 1;

R₂₉ and R₃₀, which are identical or different, are each chosen from a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, (C₁-C₄)alkyl groups, (C₁-C₄)alkoxy groups and an -NO₂ group;

X⁻ is an anion; and

J is chosen from:

(a) a group of formula J₁:



wherein:

R_{31} is chosen from a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, (C_1-C_4) alkyl groups, (C_1-C_4) alkoxy groups, a hydroxyl group, an $-NO_2$ group, $-NHR_{34}$ groups, $-NR_{35}R_{36}$ groups and $-NHCO(C_1-C_4)$ alkyl groups, wherein said R_{34} , said R_{35} , and said R_{36} are defined below;

R_{32} is chosen from a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, (C_1-C_4) alkyl groups, and (C_1-C_4) alkoxy groups;

R_{33} is chosen from a hydrogen atom, a hydroxyl group, $-NHR_{34}$ groups, and $-NR_{35}R_{36}$ groups, wherein said R_{34} , said R_{35} , and said R_{36} are defined below;

R_{34} is chosen from a hydrogen atom, (C_1-C_4) alkyl groups, (C_1-C_4) monohydroxyalkyl groups, (C_2-C_4) polyhydroxyalkyl groups and a phenyl group;

R_{35} and R_{36} , which are identical or different, are each chosen from (C_1-C_4) alkyl groups, (C_1-C_4) monohydroxyalkyl groups and (C_2-C_4) polyhydroxyalkyl groups;

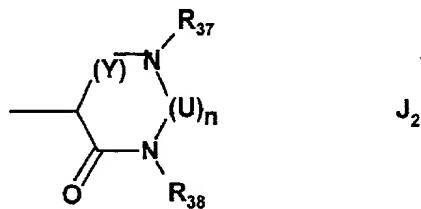
wherein:

said R_{31} and said R_{32} optionally form a 5- or 6-membered ring, wherein said 5- or 6-membered ring optionally comprises at least one heteroatom chosen from a nitrogen atom, an oxygen atom, and a sulfur atom; and said R_{32} and one of said R_{33} or said R_{34} optionally form a 5- or 6-membered ring, wherein said 5- or 6-membered ring optionally comprises at least

one heteroatom chosen from a nitrogen atom, an oxygen atom, and a sulfur atom; and

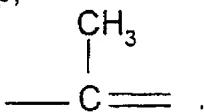
-(b) a 5- or 6-membered nitrogenous heterocyclic group optionally comprising at least one unit chosen from heteroatoms and carbonyl-containing groups, wherein said 5- or 6-membered nitrogenous heterocyclic group is optionally substituted with at least one group chosen from C₁-C₄ alkyl groups, an amino group, and a phenyl group.

19. A composition according to claim 18, wherein said J chosen from said 5- or 6-membered nitrogenous heterocyclic group of (b) is chosen from a group of formula J₂:



wherein:

R₃₇ and R₃₈, which are identical or different, are each chosen from a hydrogen atom, (C₁-C₄)alkyl groups and a phenyl group;



Y is chosen from a group -CO- and a group

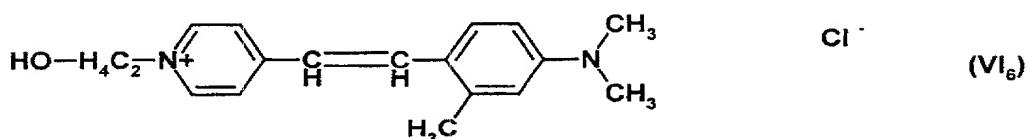
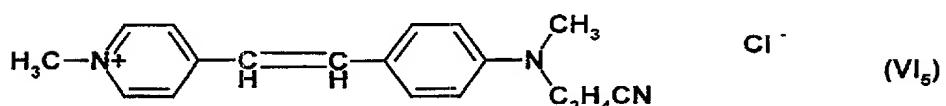
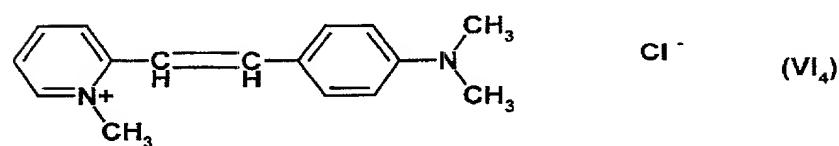
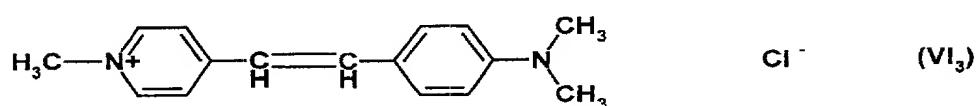
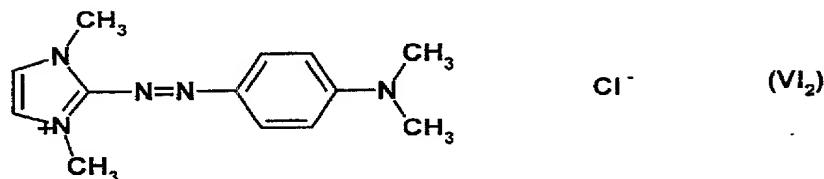
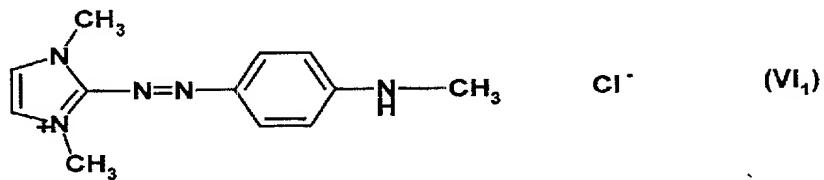


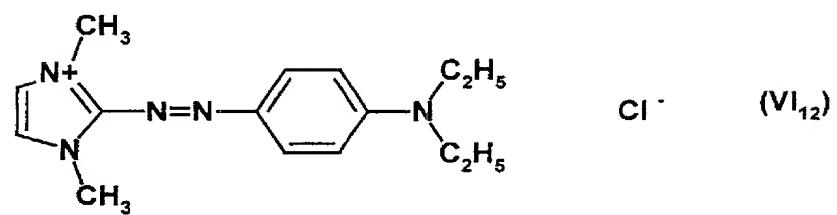
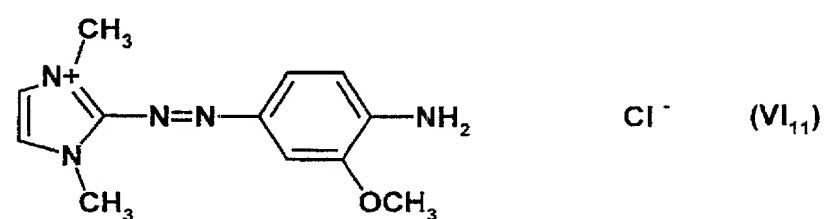
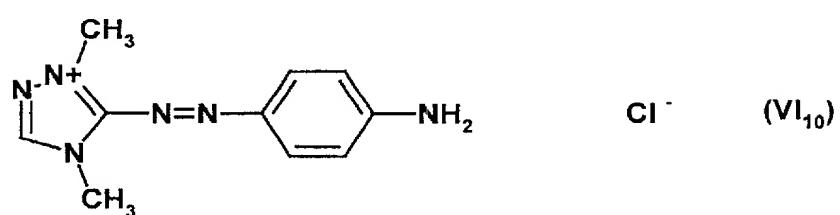
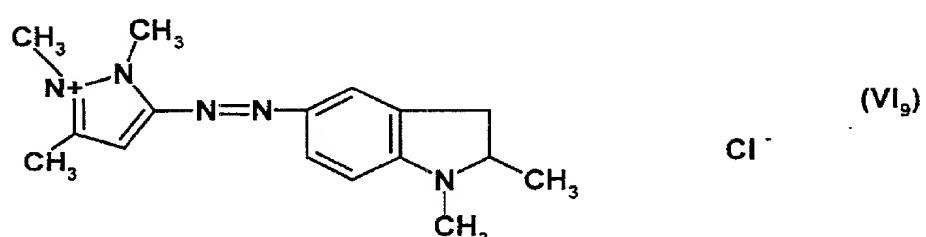
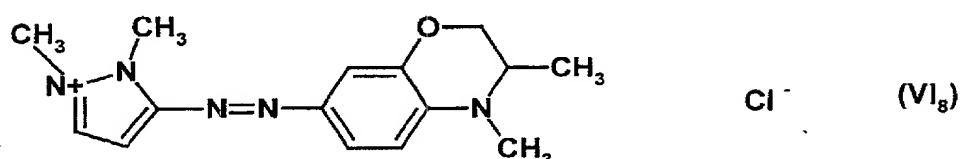
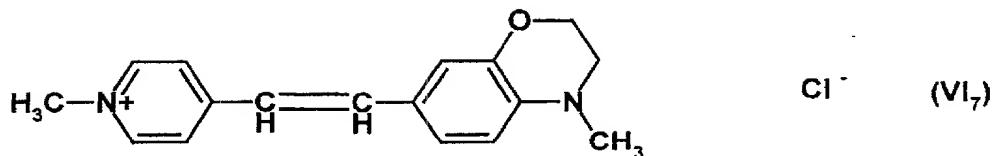
n is an integer equal to 0 or 1; and

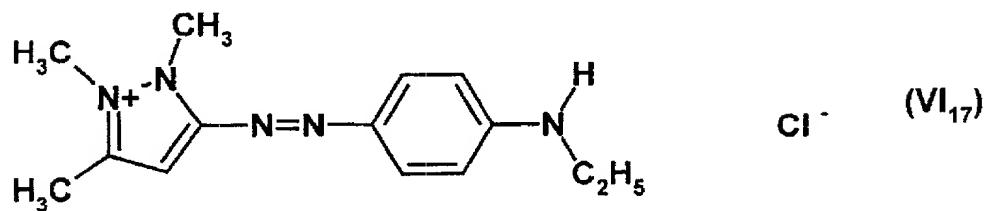
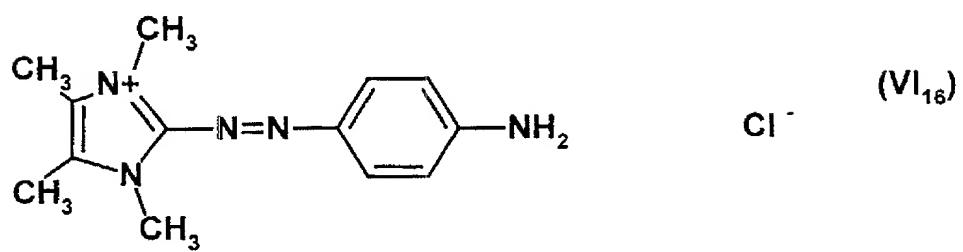
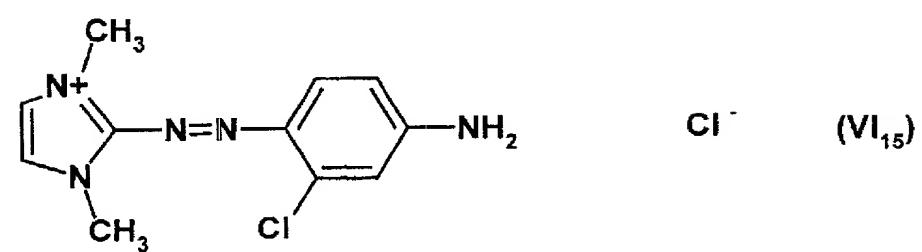
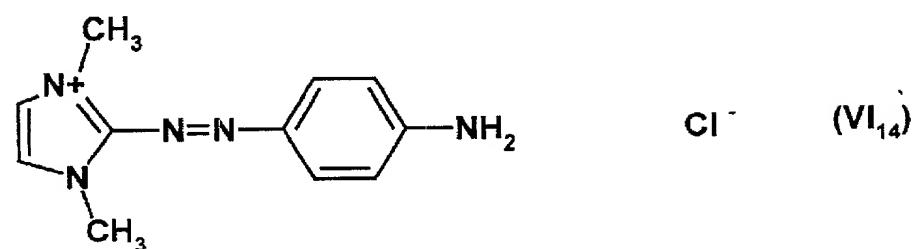
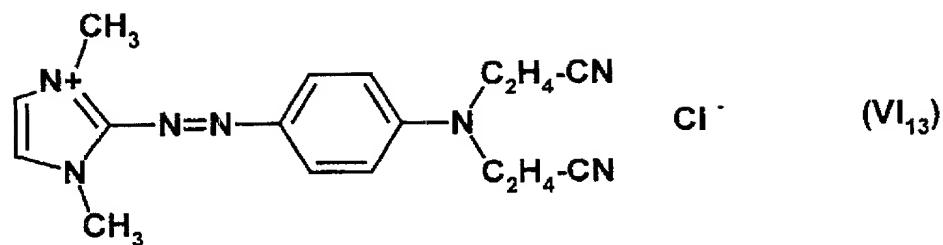
provided that:

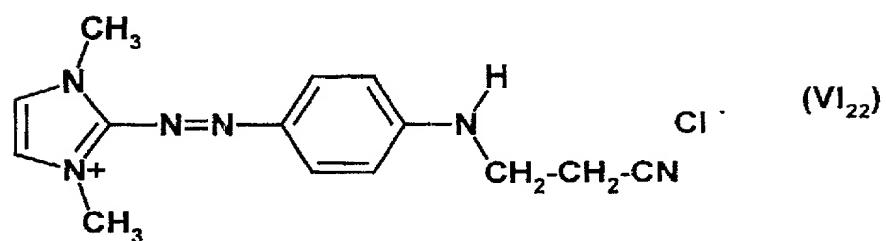
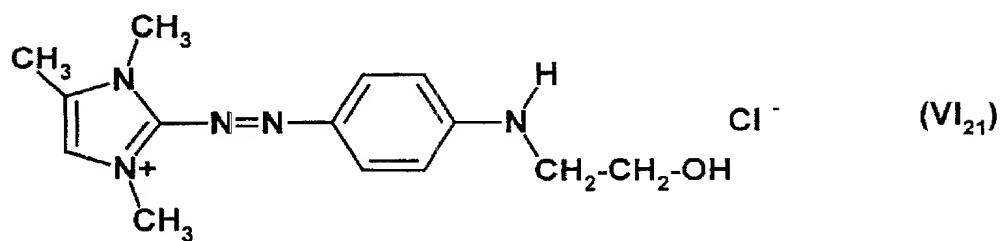
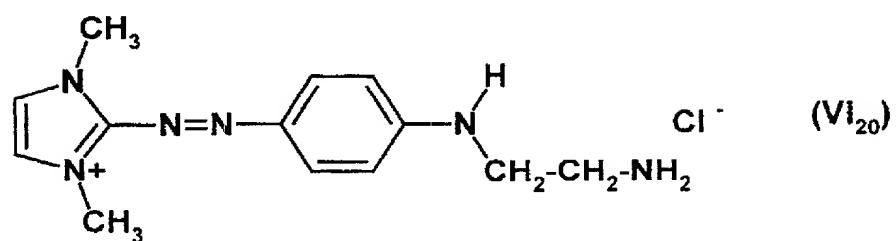
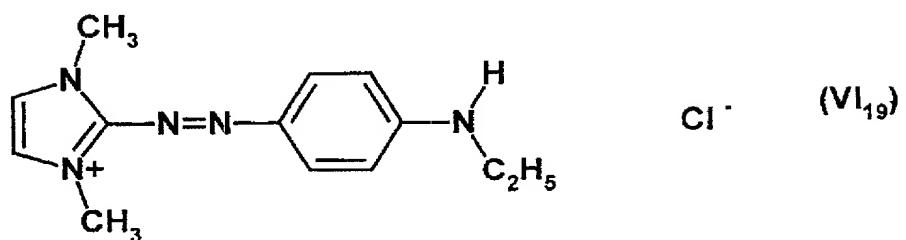
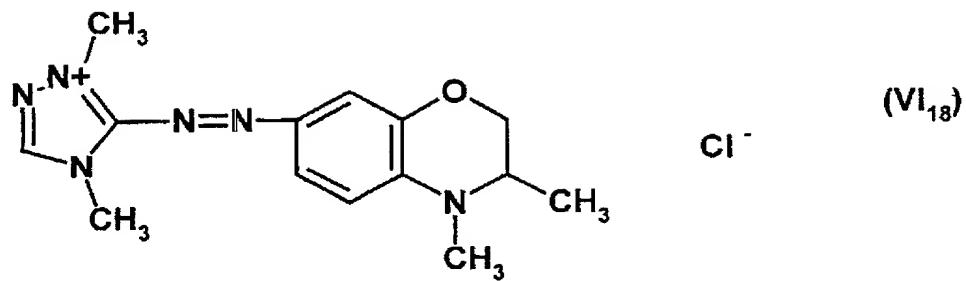
when n is equal to 1, then U is a -CO- group.

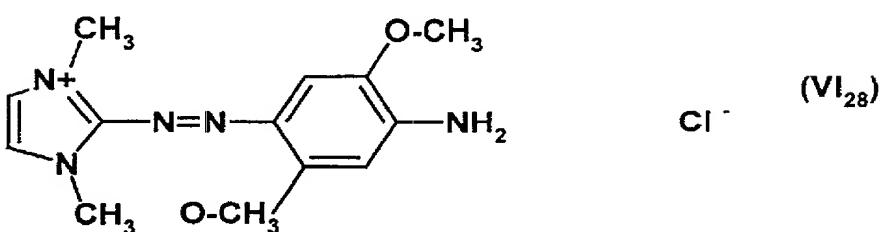
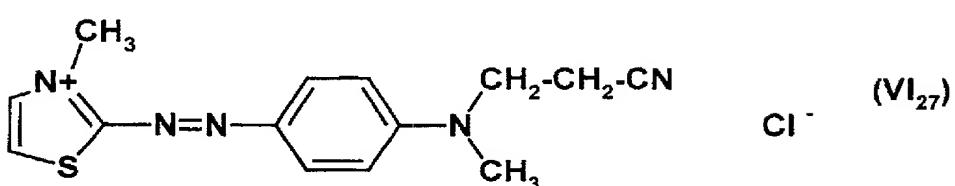
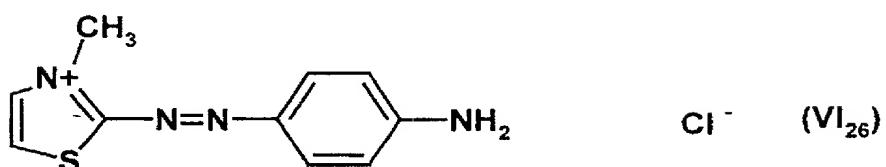
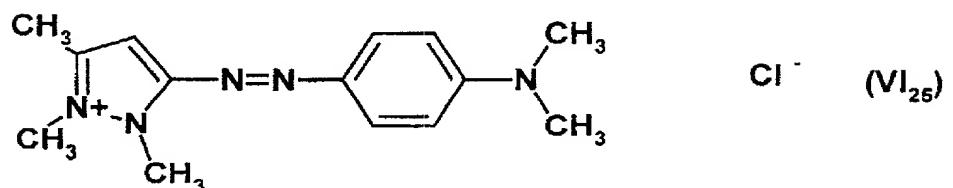
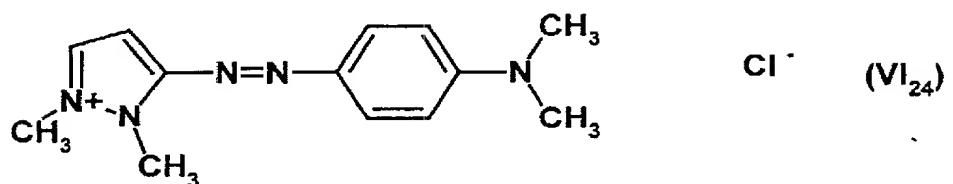
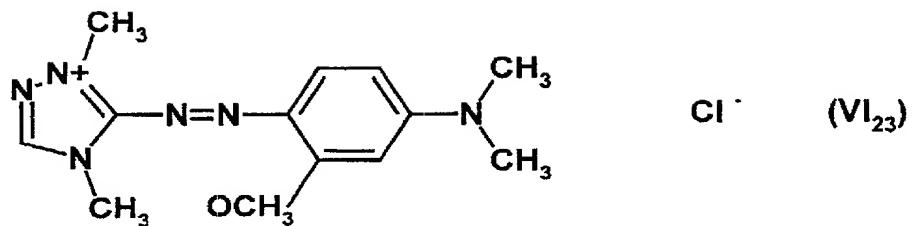
20. A composition according to claim 15, wherein said compounds of formula(VI) are chosen from the compounds of formula (VI₁) to (VI₅₄):

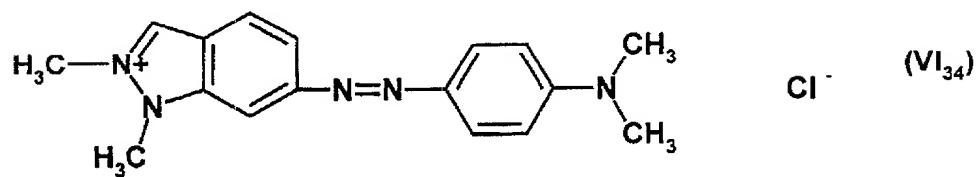
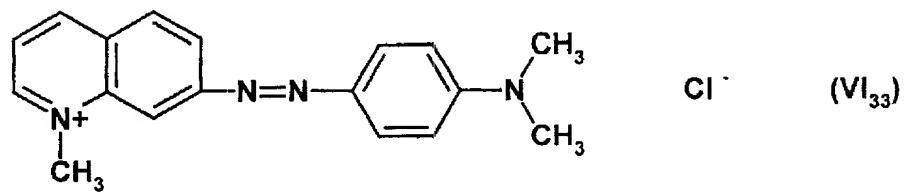
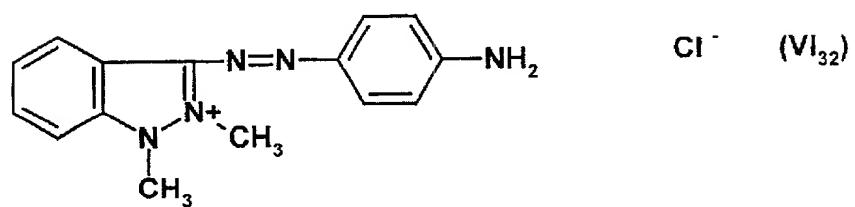
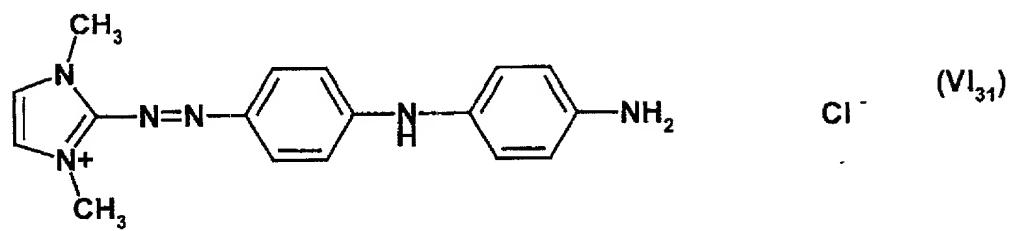
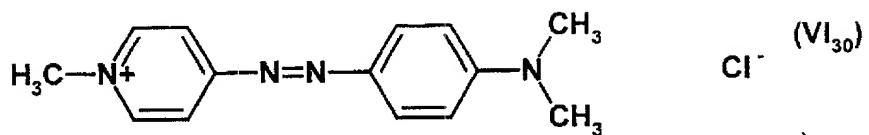
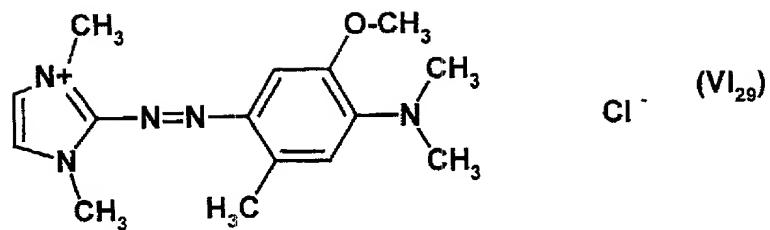


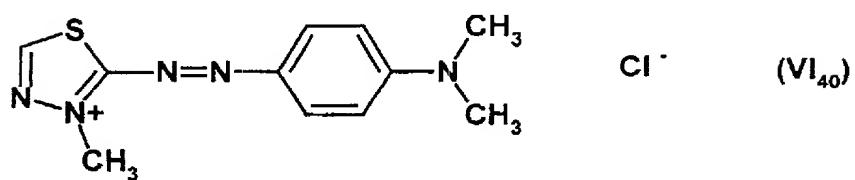
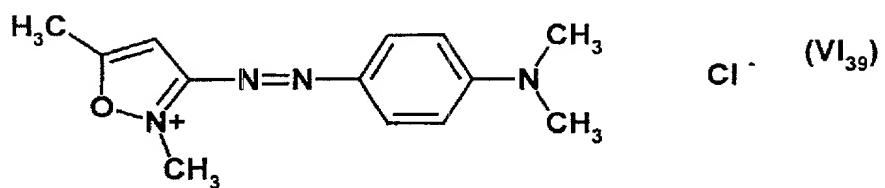
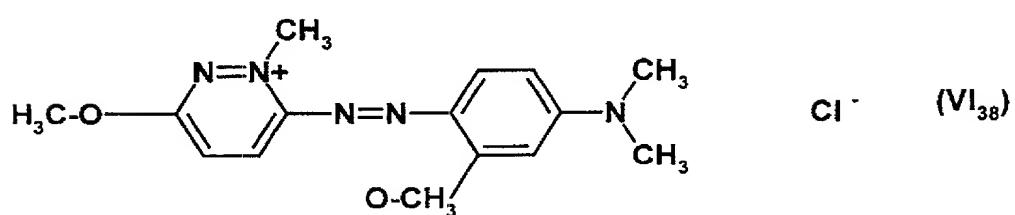
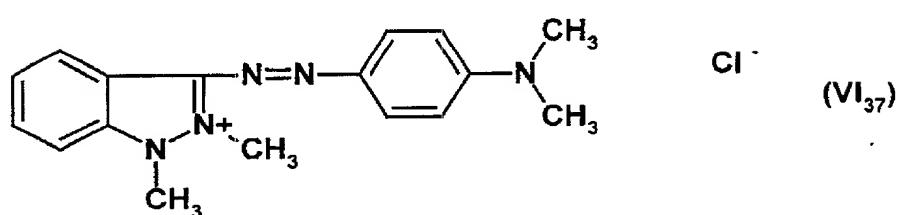
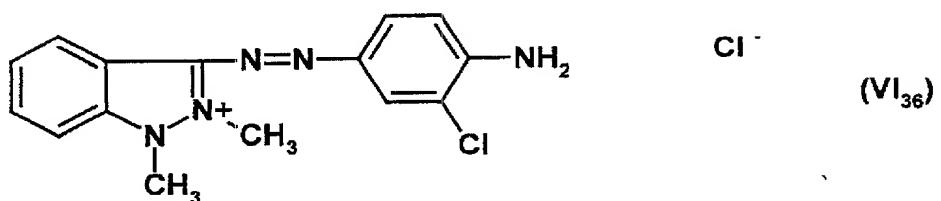
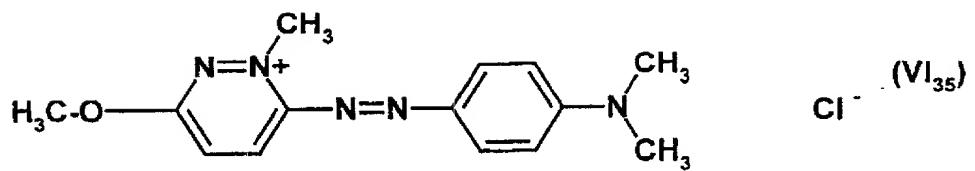


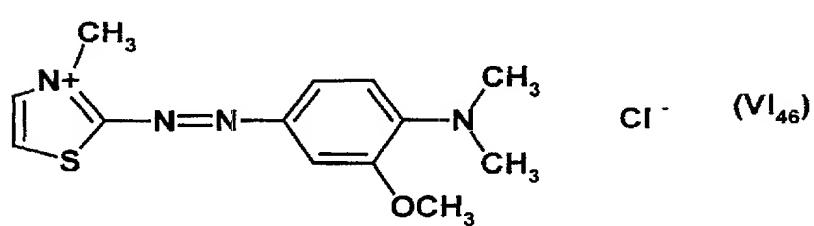
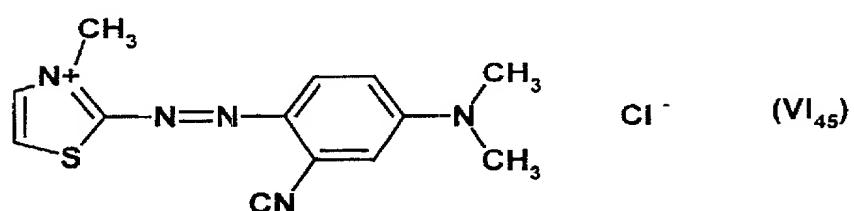
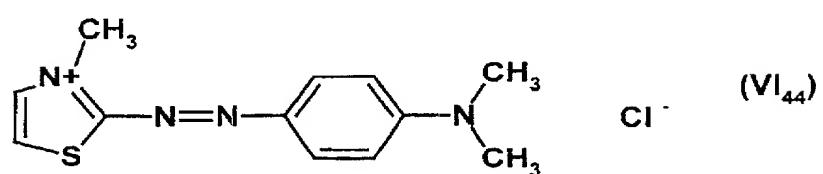
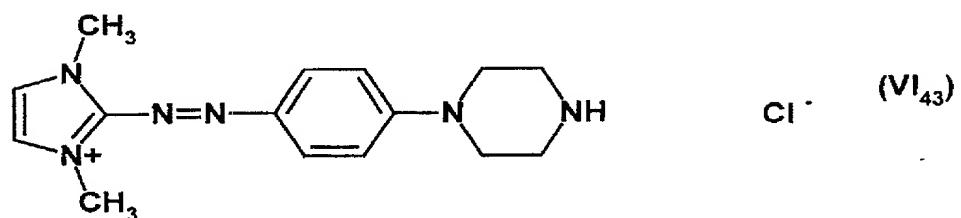
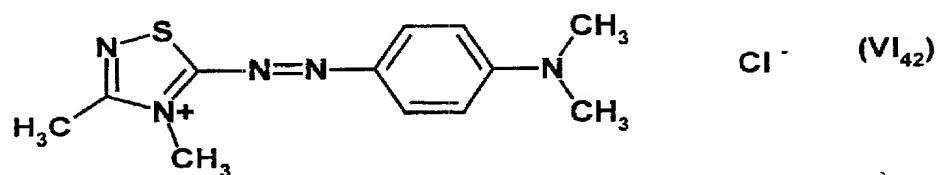
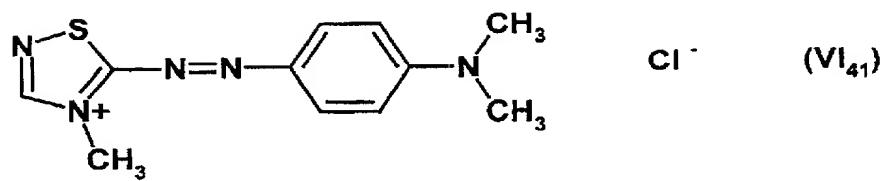


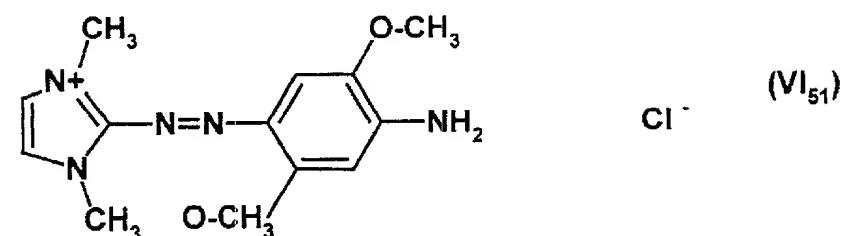
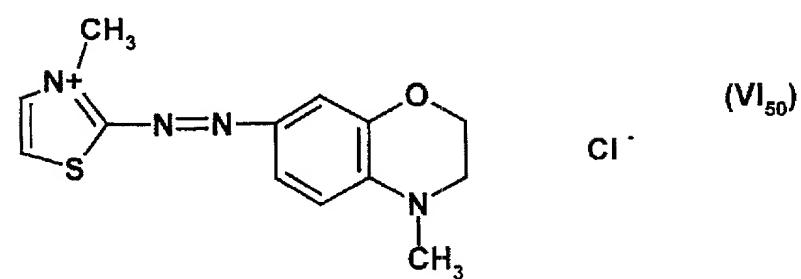
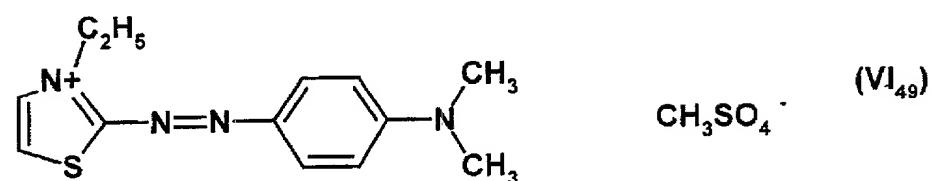
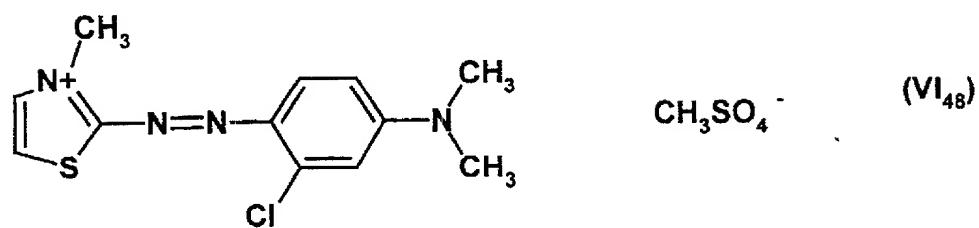
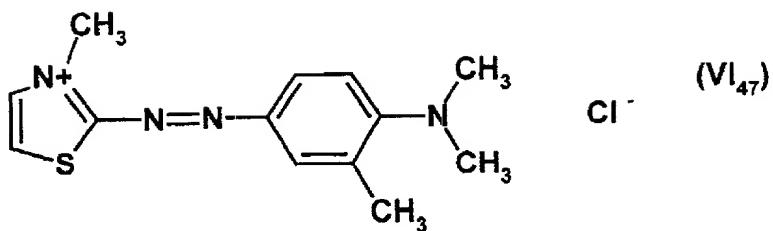


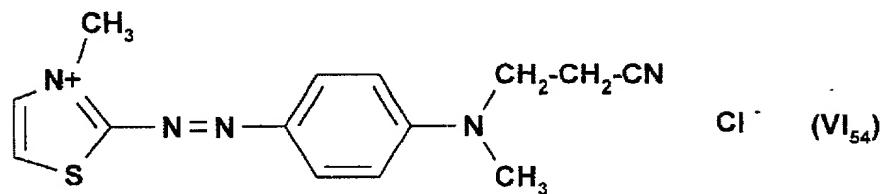
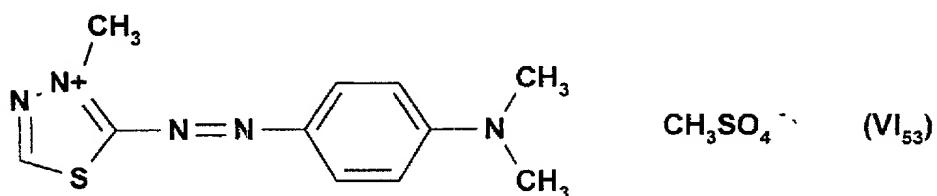
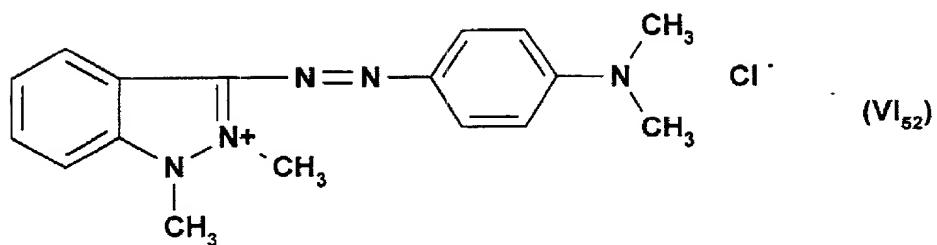




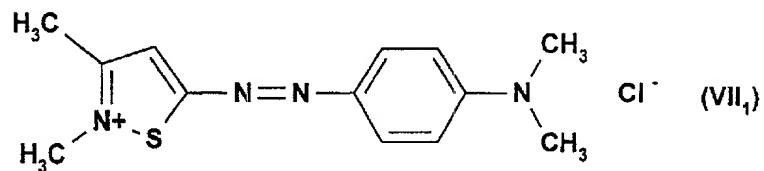


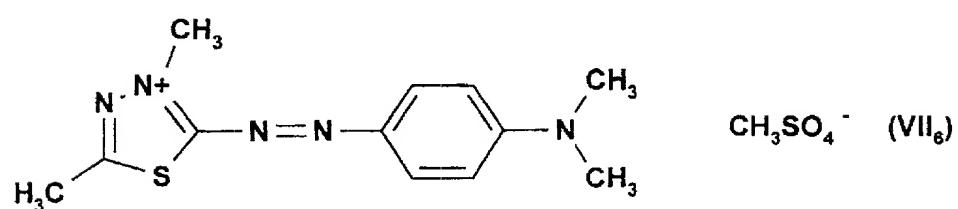
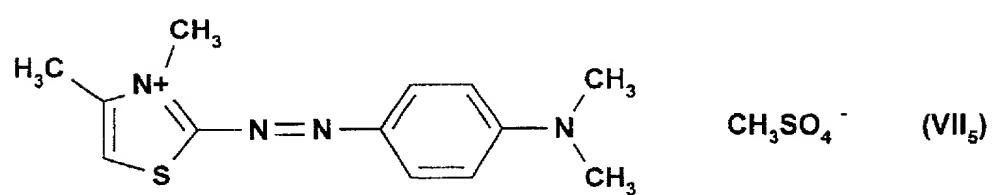
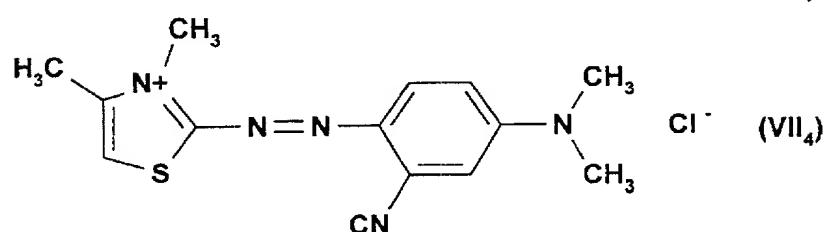
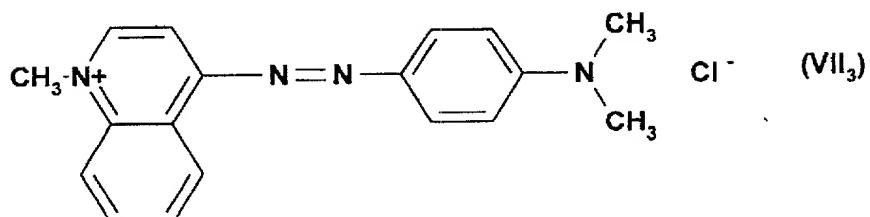
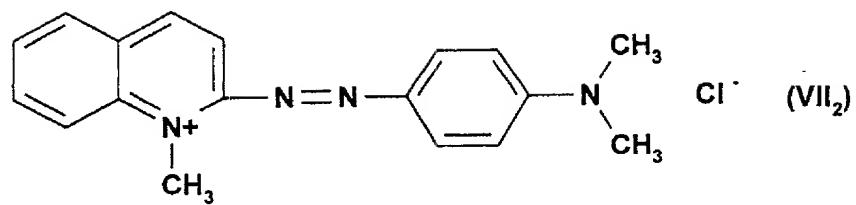


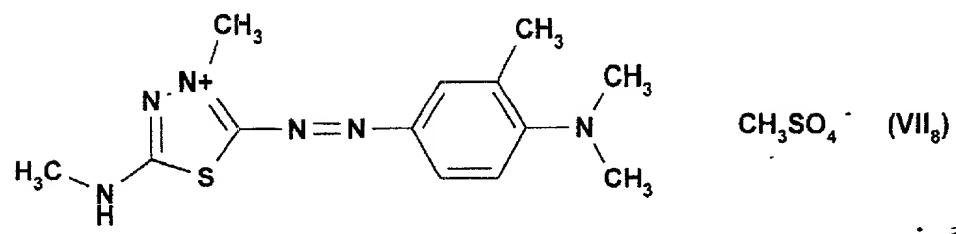
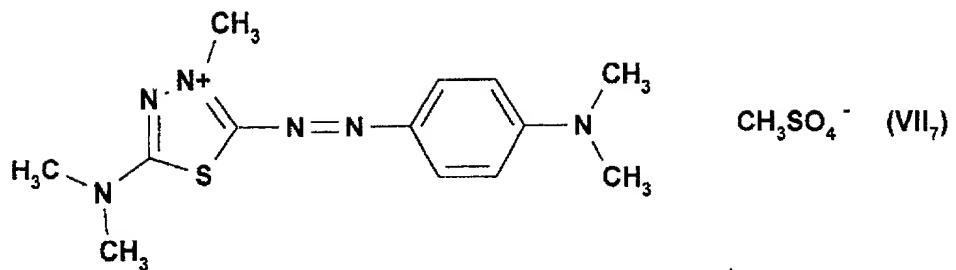




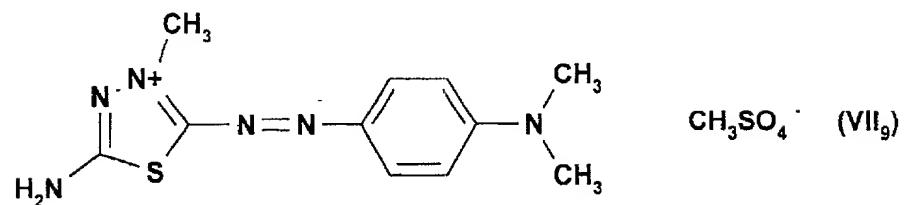
21. A composition according to claim 16, wherein said compounds of formula(VII) are chosen from the compounds of formula (VII₁) to (VII₉):



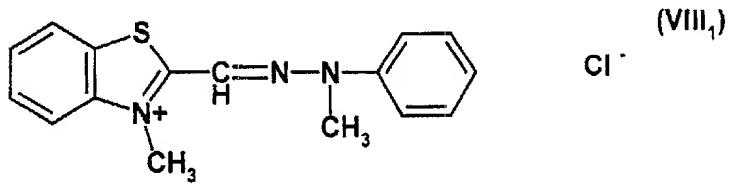


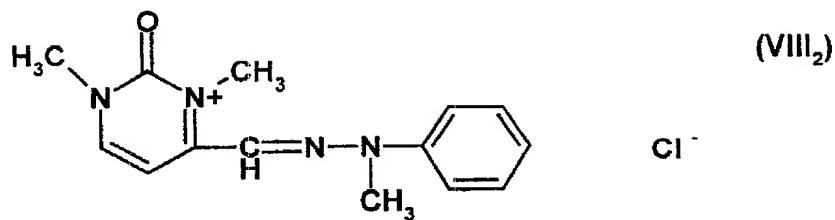


; and

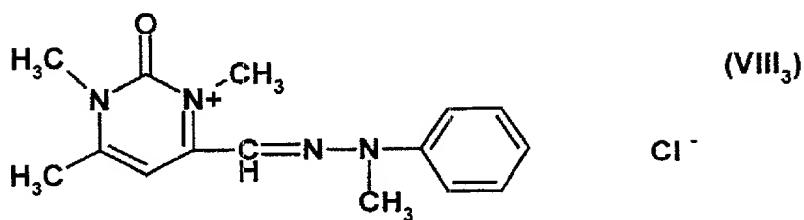


22. A composition according to claim 17, wherein said compounds of formula(VIII) are chosen from the compounds of formula (VIII₁) to (VIII₁₈):

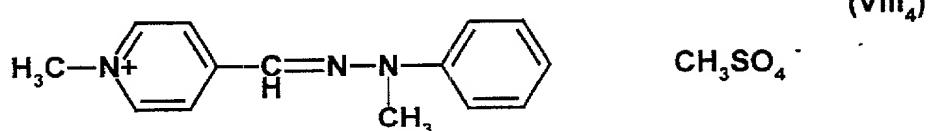




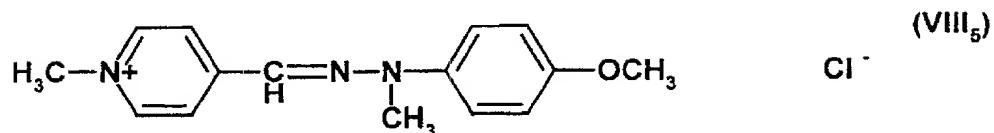
Cl⁻



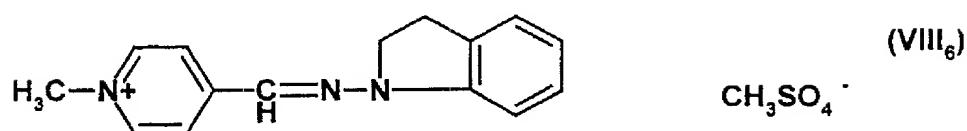
Cl⁻



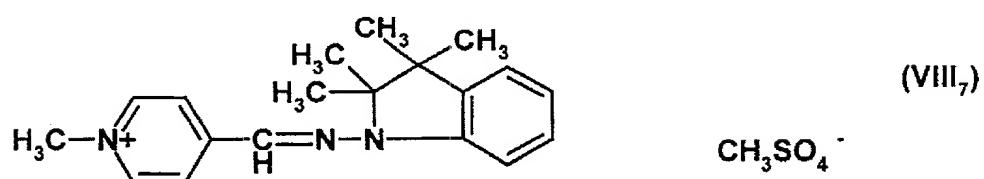
CH₃SO₄⁻



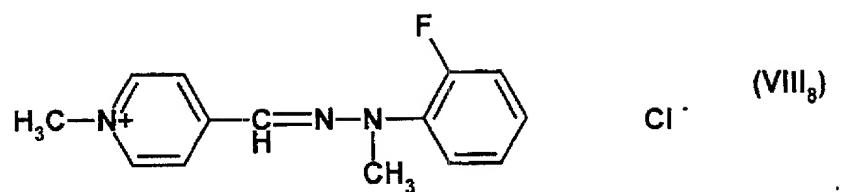
Cl⁻



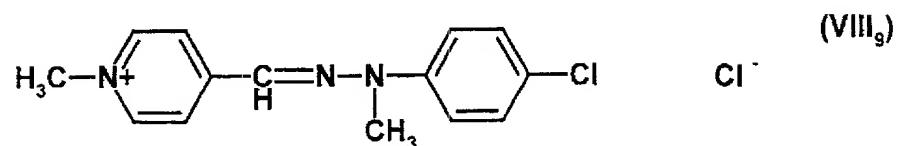
CH₃SO₄⁻



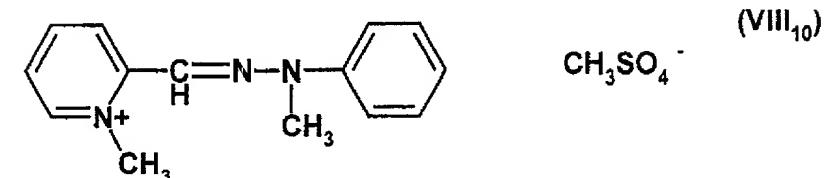
CH₃SO₄⁻



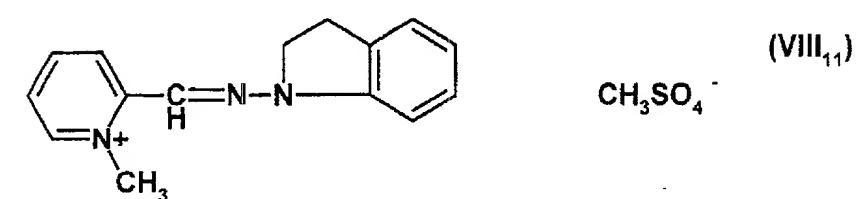
Cl^-



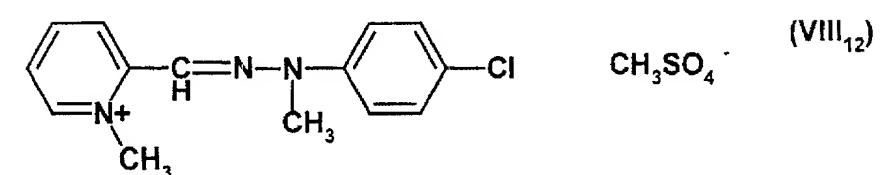
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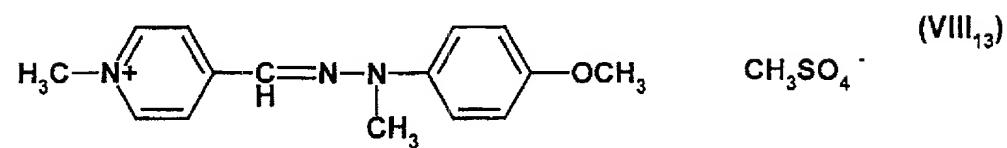
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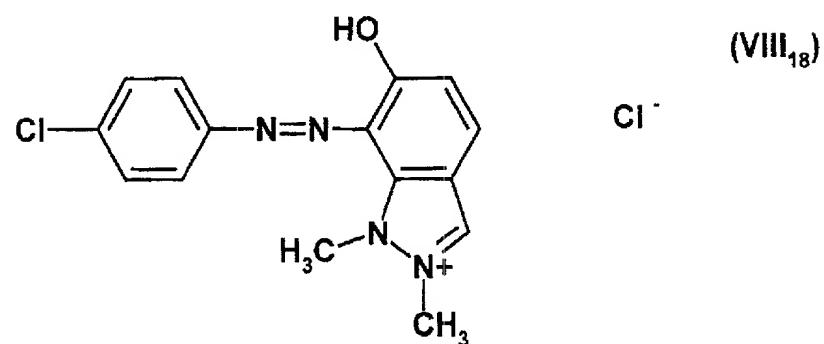
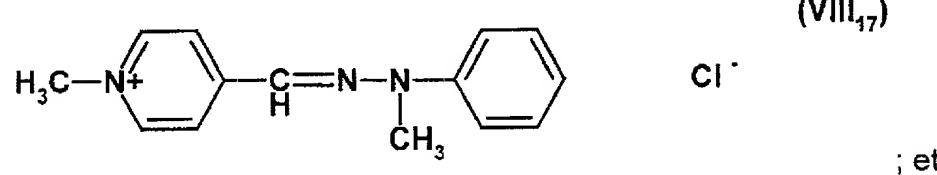
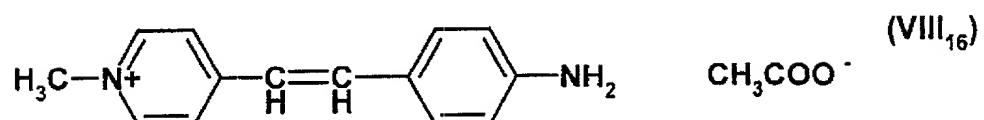
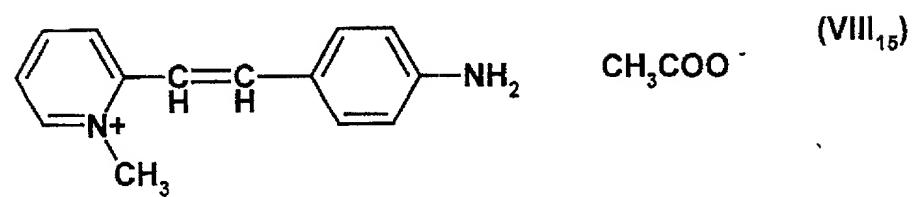
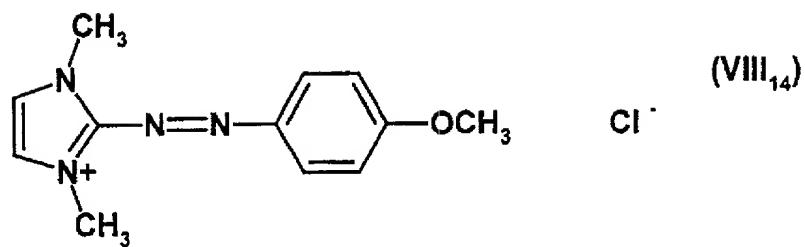
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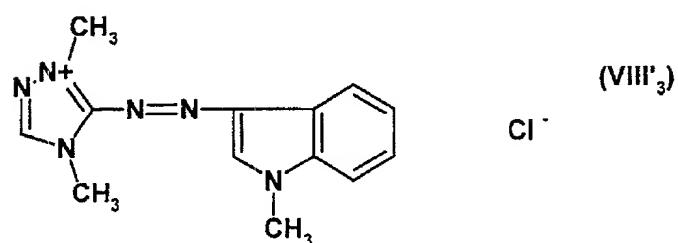
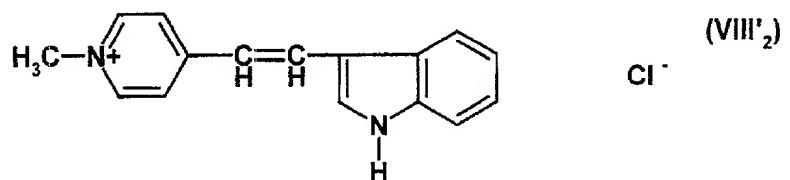
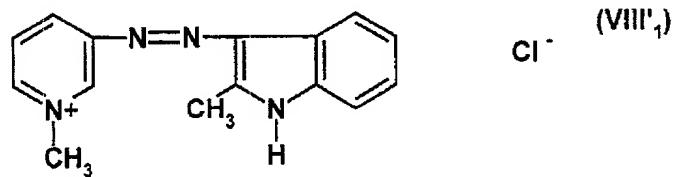
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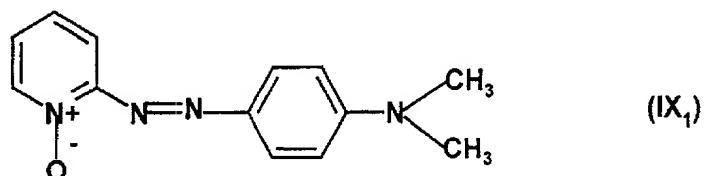
CH_3SO_4^-

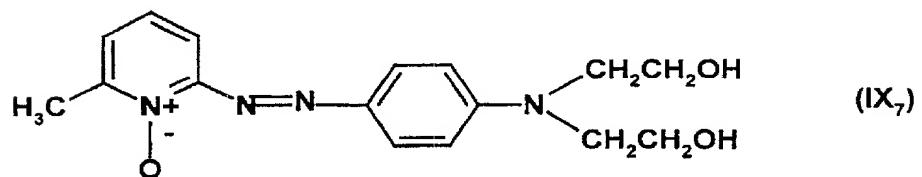
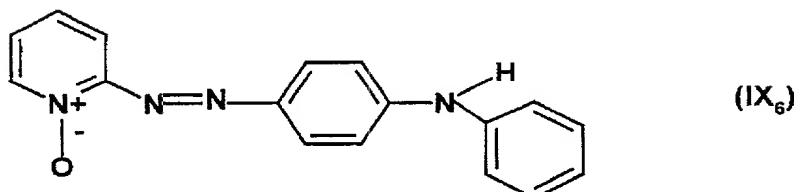
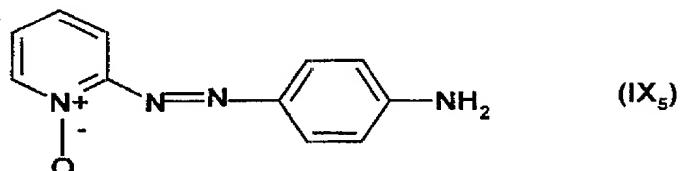
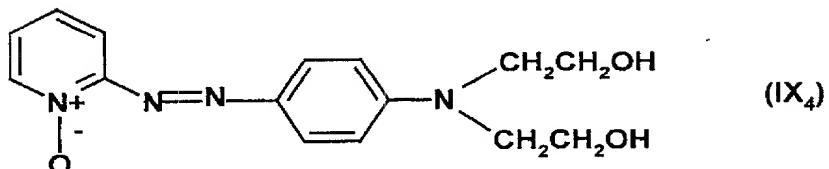
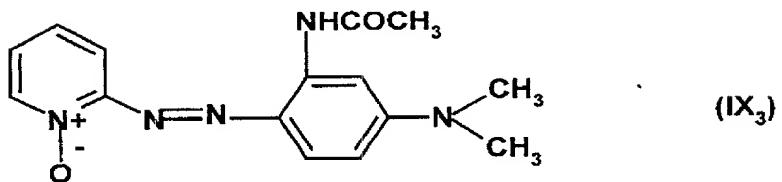
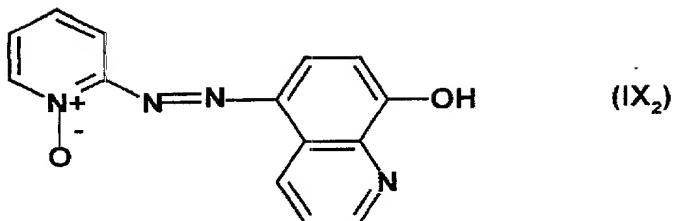


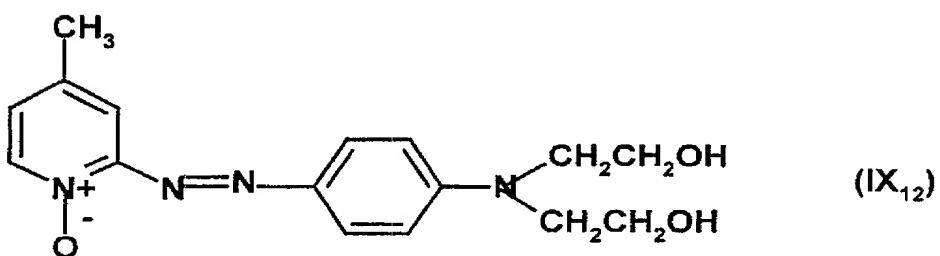
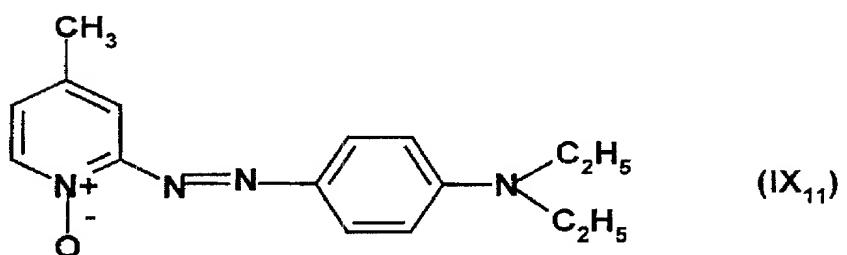
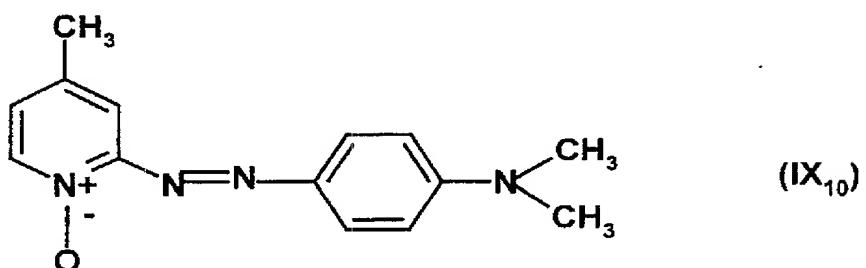
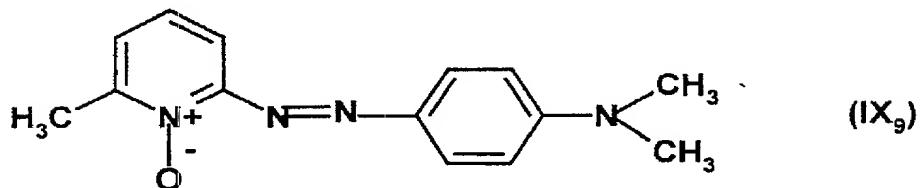
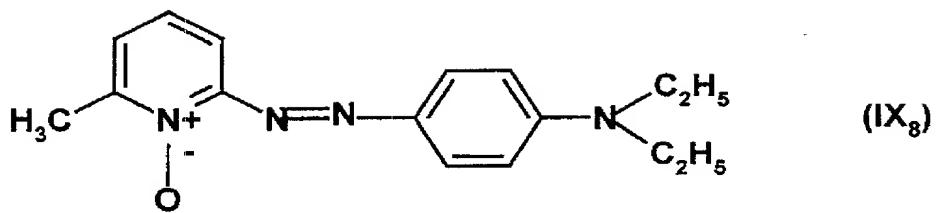
23. A composition according to claim 17, wherein said compounds of formula(VIII') are chosen from the compounds of formula (VIII'₁) to (VIII'₃):

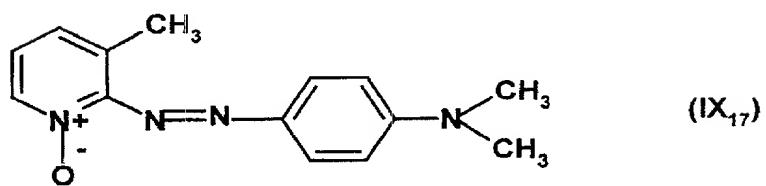
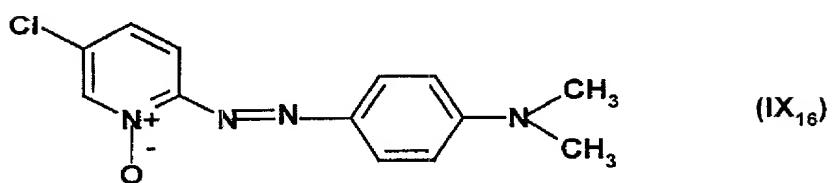
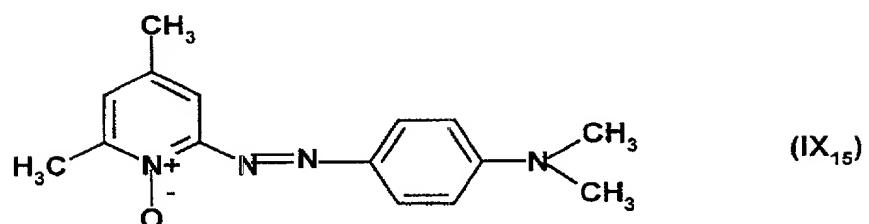
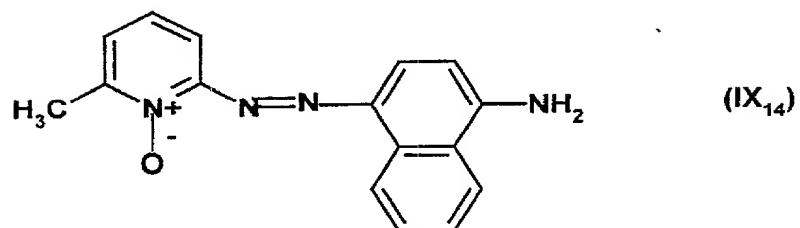
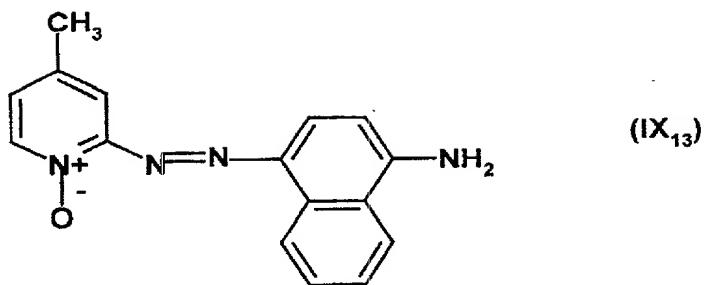


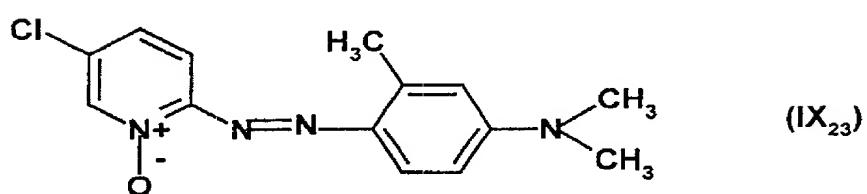
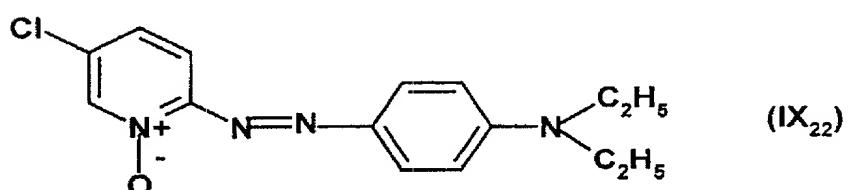
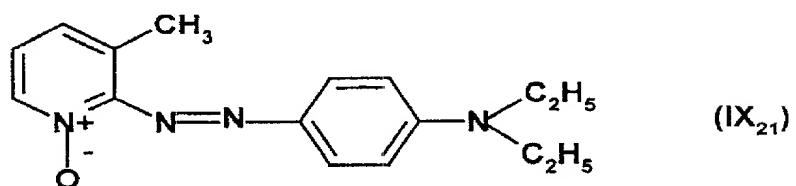
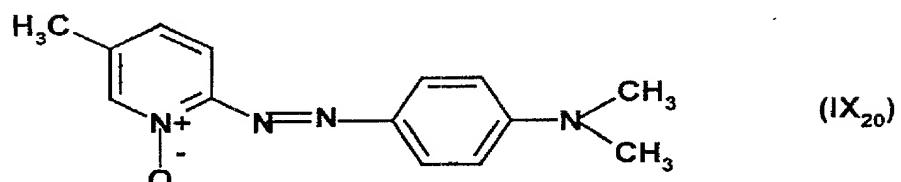
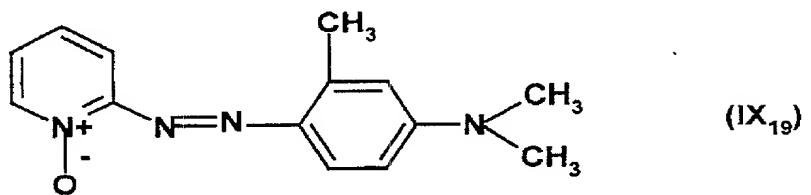
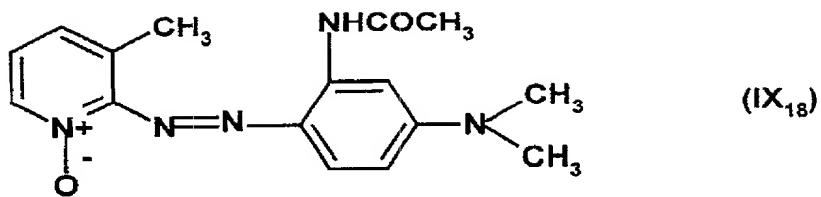
24. A composition according to claim 18, wherein said compounds of formula(IX) are chosen from the compounds of formula (IX₁) to (IX₇₇):

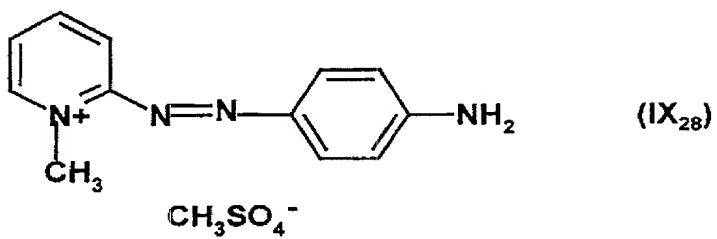
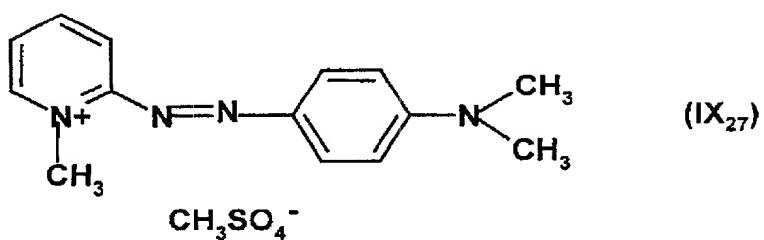
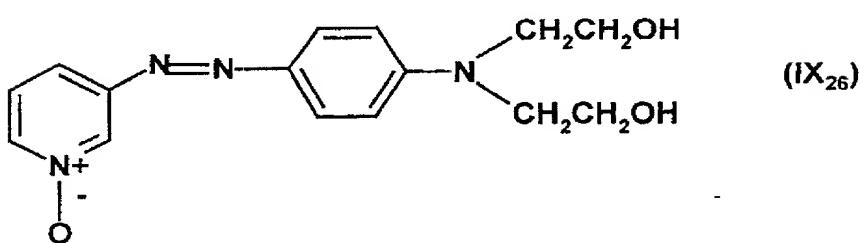
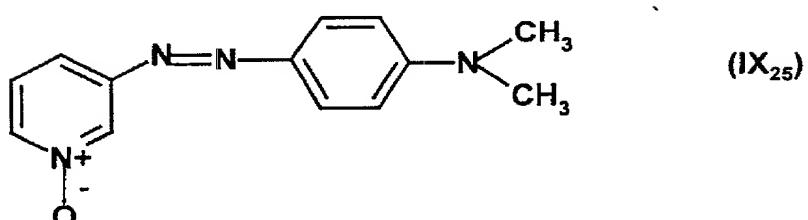
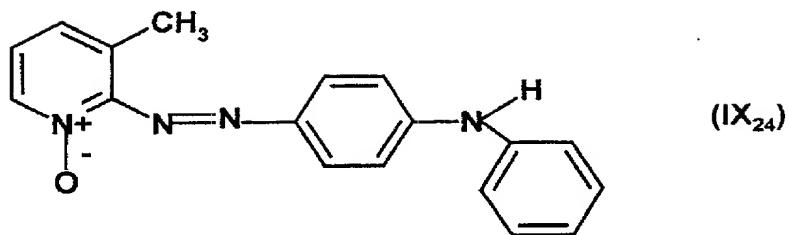


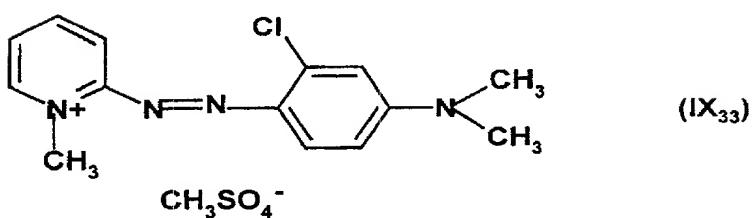
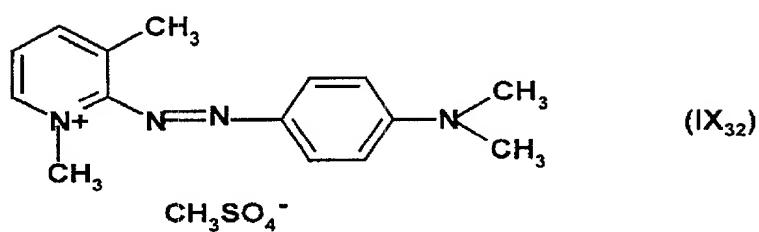
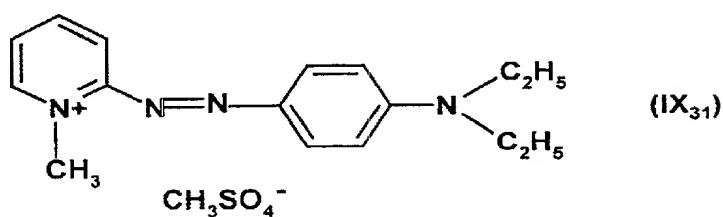
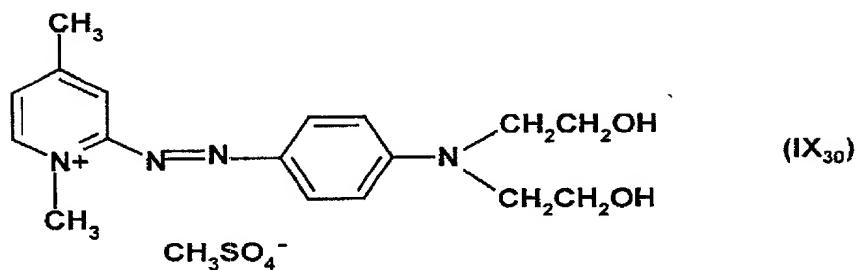
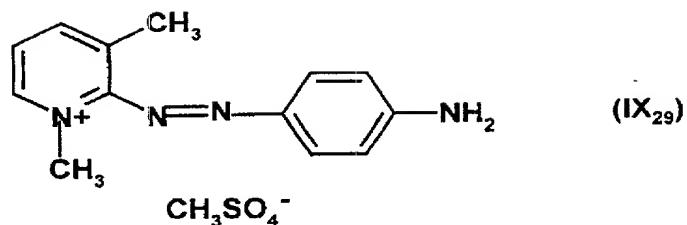


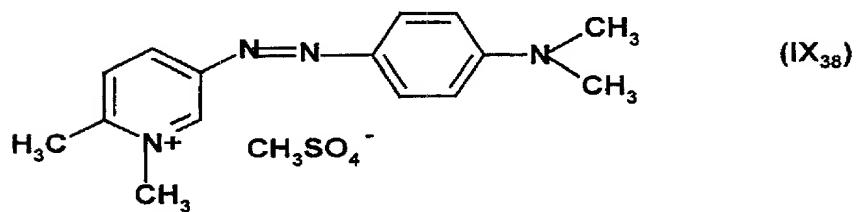
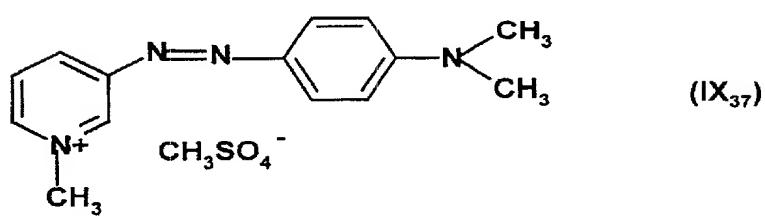
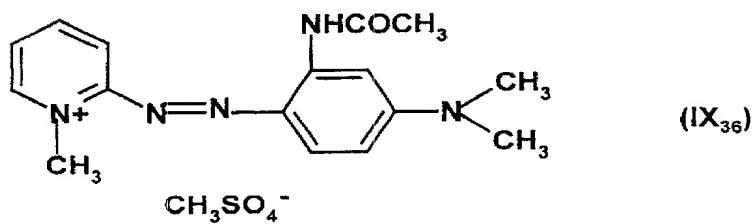
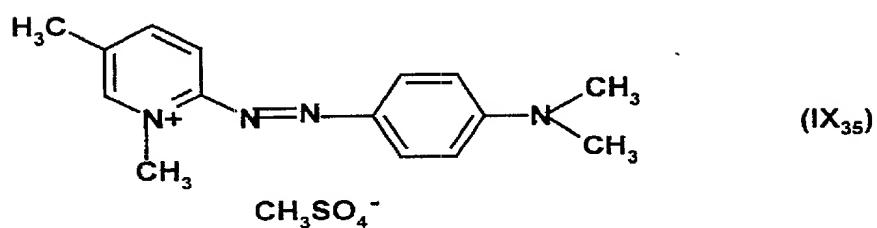
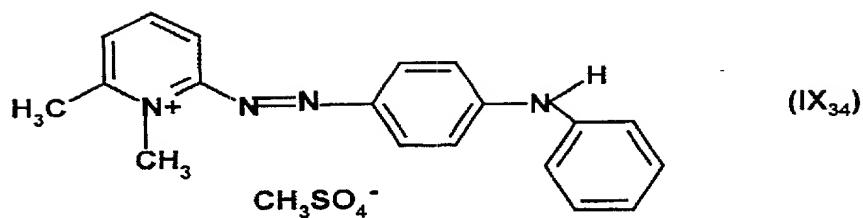


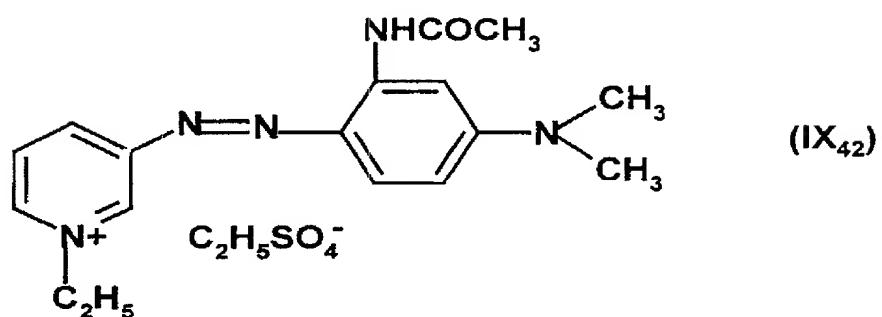
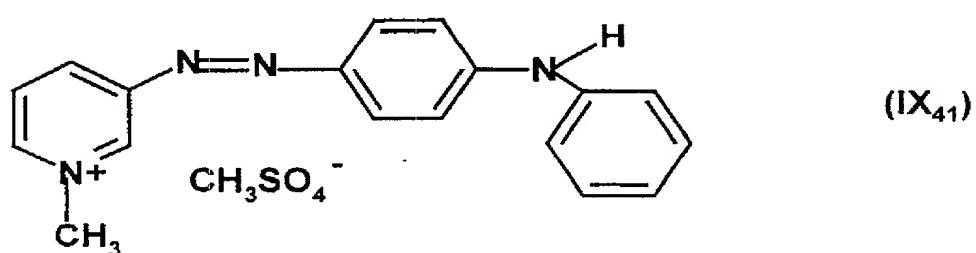
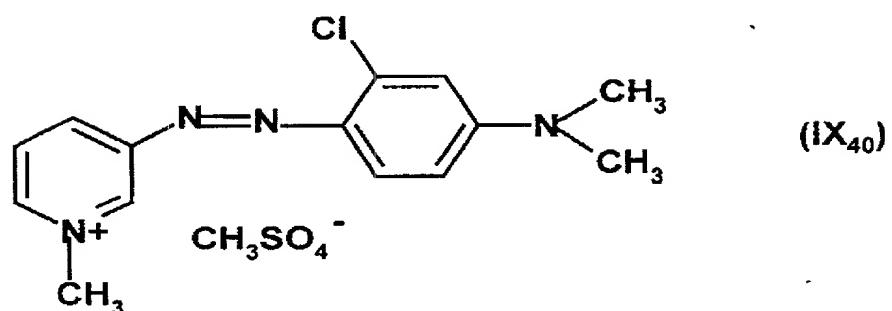
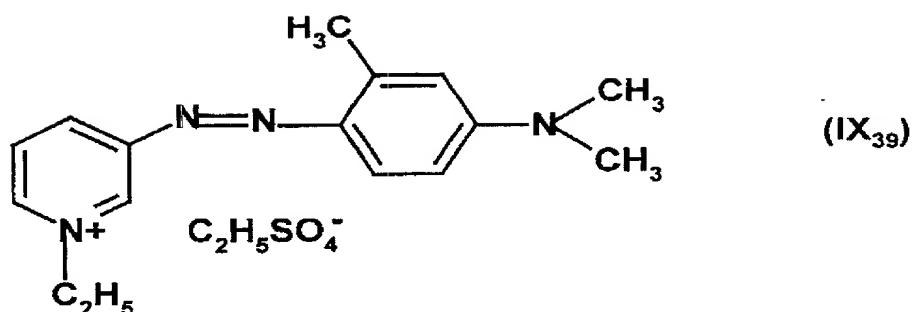


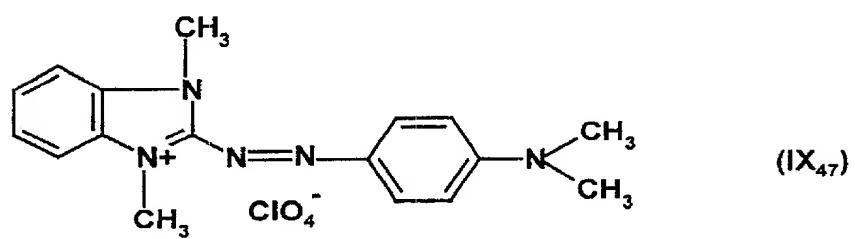
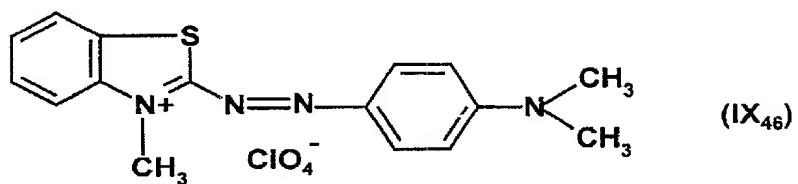
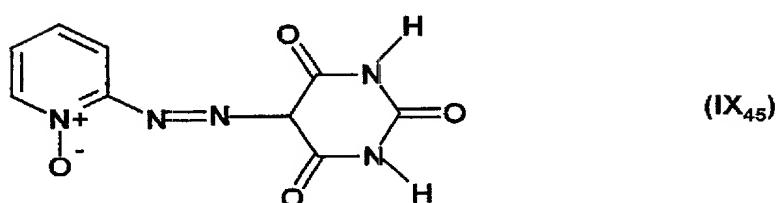
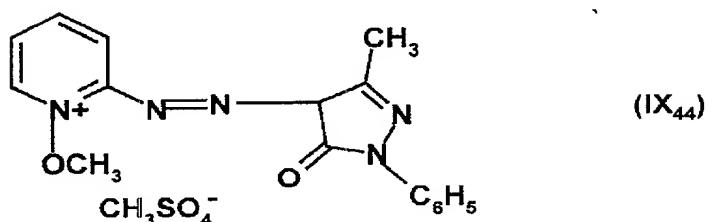
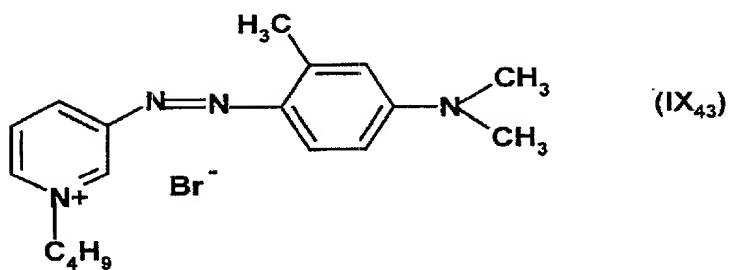


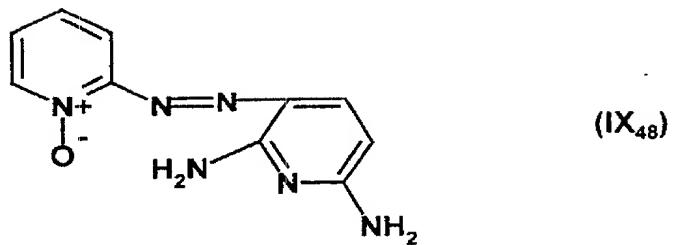




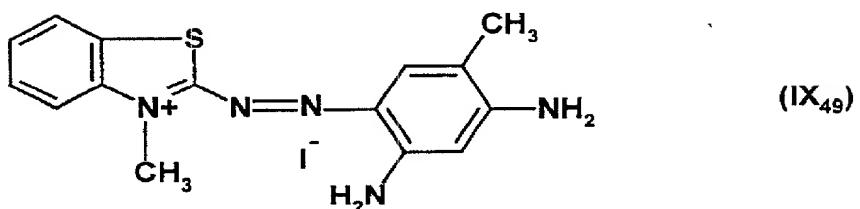




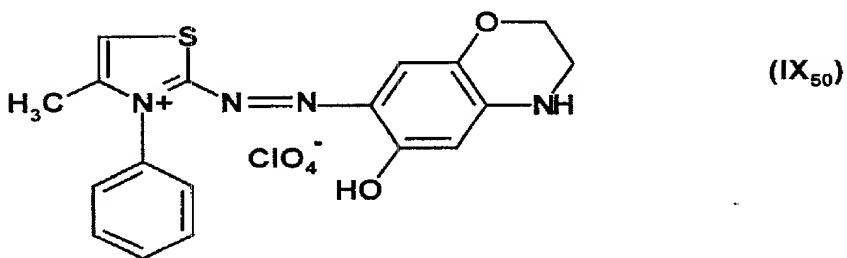




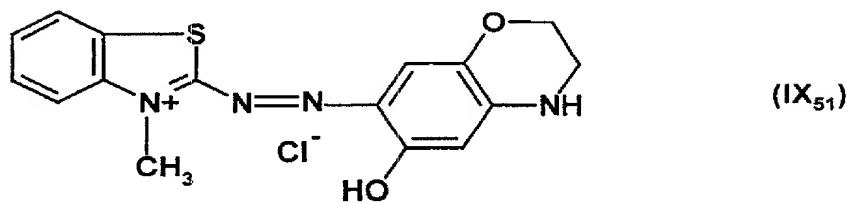
(IX₄₈)



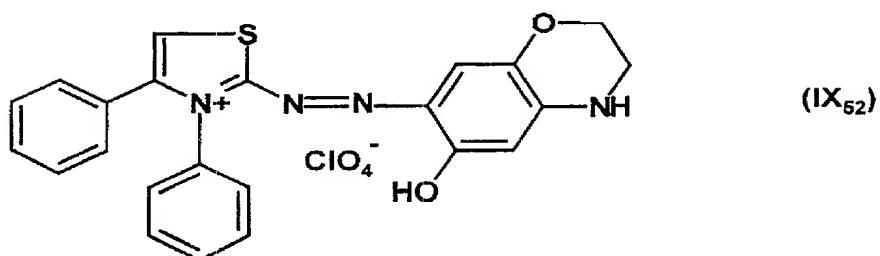
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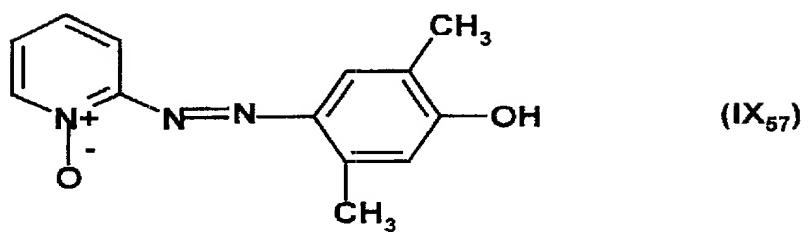
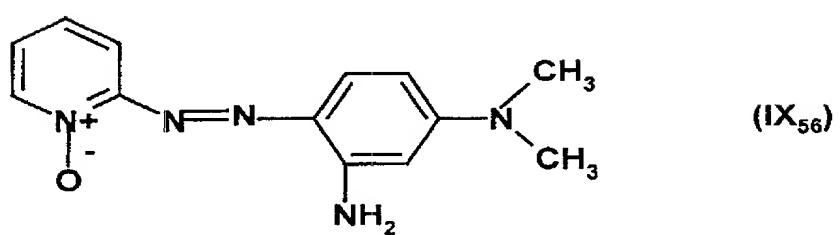
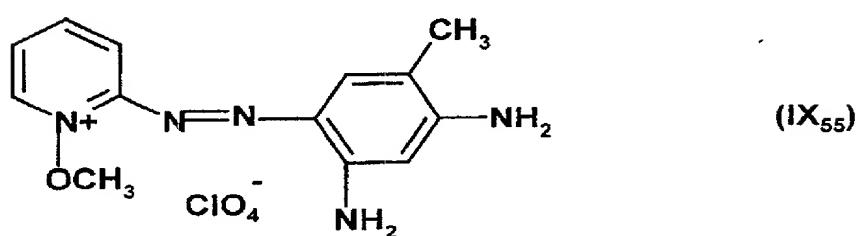
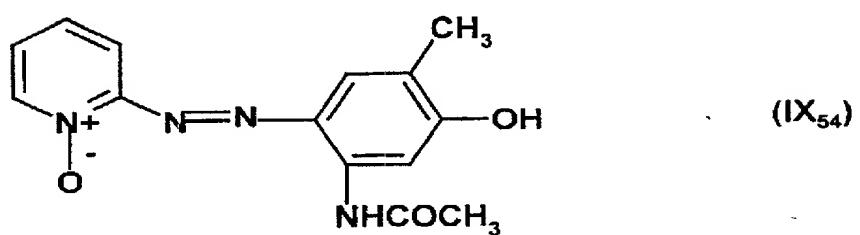
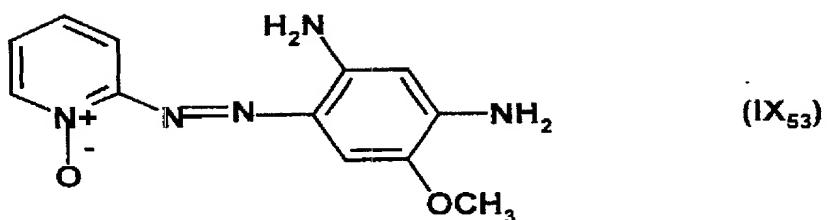
(IX₅₀)

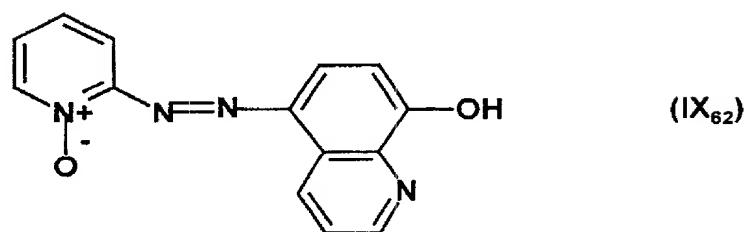
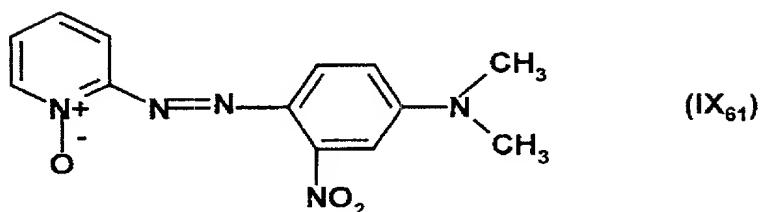
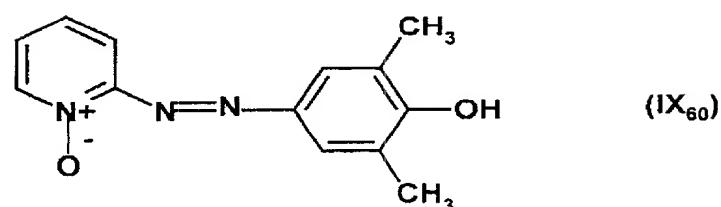
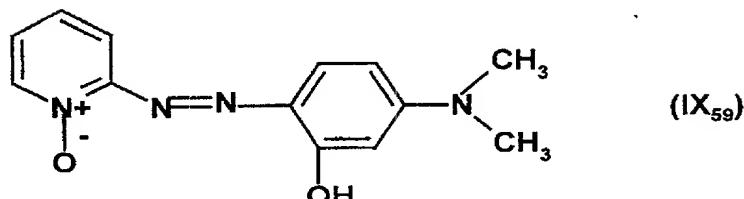
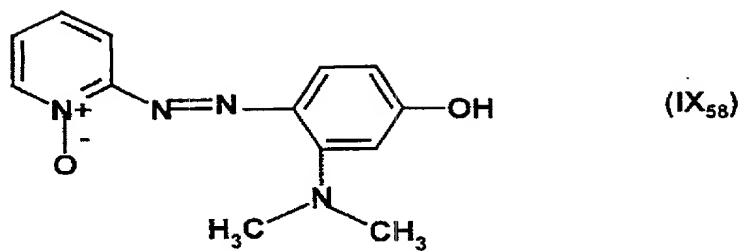


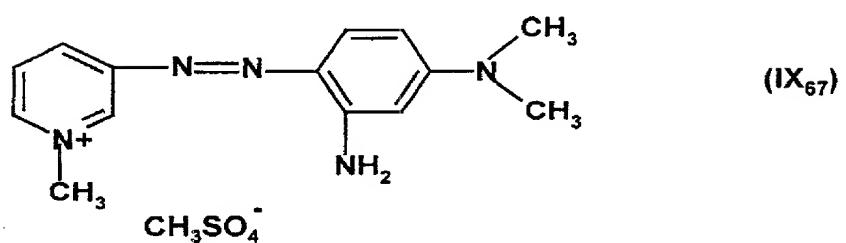
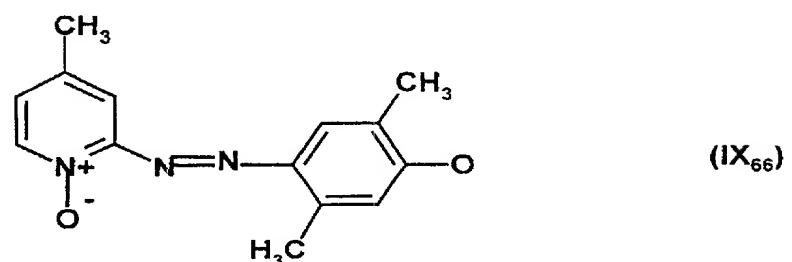
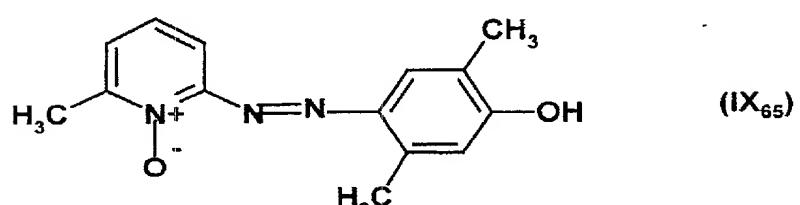
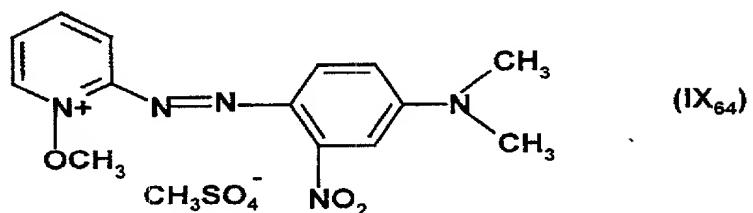
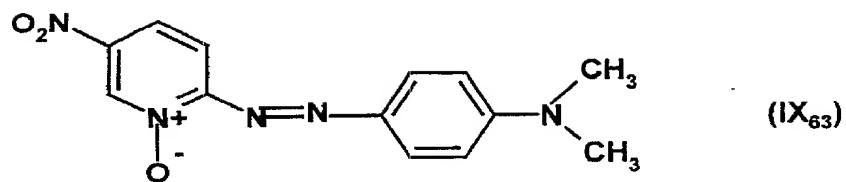
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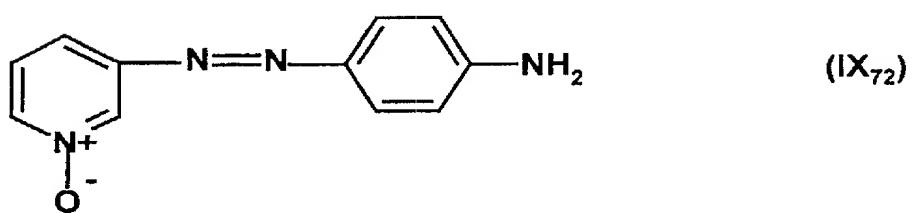
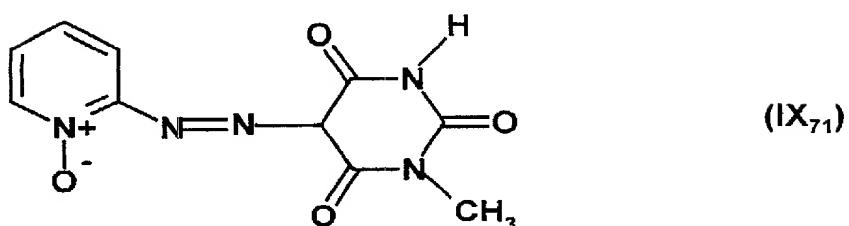
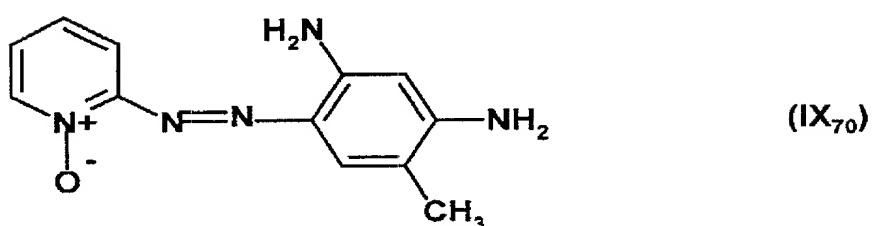
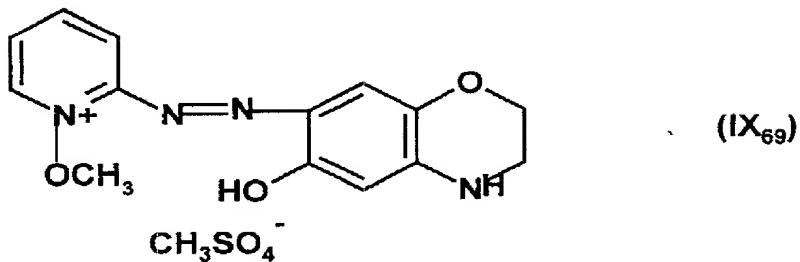
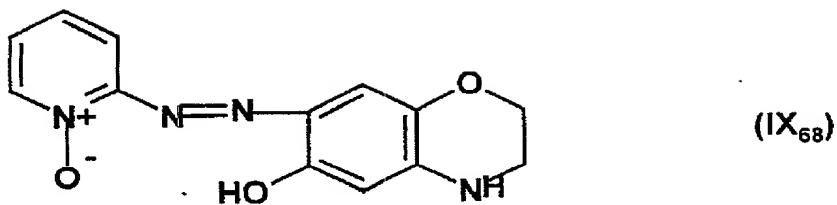


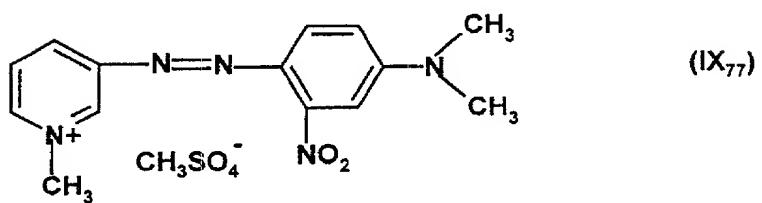
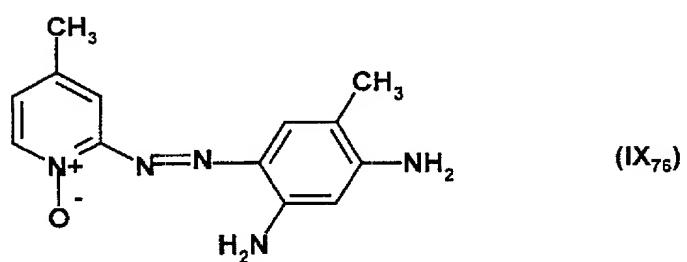
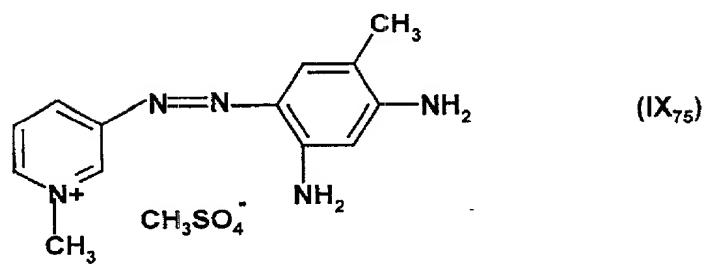
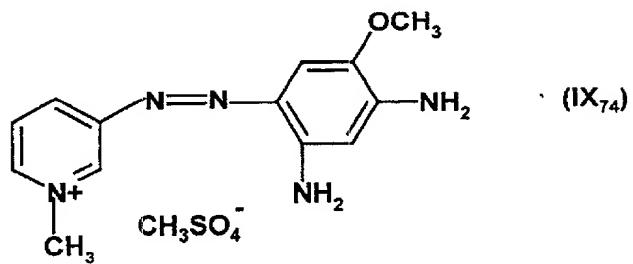
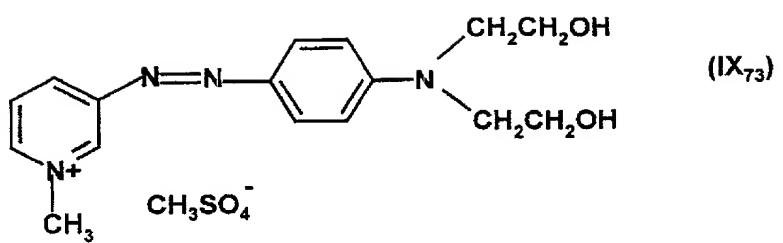
(IX₅₂)











25. A composition according claim 1, wherein said at least one direct dye is present an amount ranging from 0.001 to 20% by weight relative to the total weight of the composition.
26. A composition according claim 25, wherein said at least one direct dye is present an amount ranging from 0.005 to 10% by weight relative to the total weight of the composition.
27. A composition according to claim 1 further comprising at least one coupler.
28. A composition according to Claim 27, wherein said coupler is chosen from: meta-phenylenediamines, meta-aminophenols, meta-diphenols, naphthols and heterocyclic couplers, such as, indole derivatives, indoline derivatives, sesamol and its derivatives, pyridine derivatives, pyrazolotriazole derivatives, pyrazolones, indazoles, benzimidazoles, benzothiazoles, benzoxazoles, 1,3-benzodioxoles, quinolines, and acid addition salts thereof.
29. A composition according to Claim 27, wherein said coupler is chosen from: 2,4-diamino-1-(β -hydroxyethoxy)benzene, 2-methyl-5-aminophenol, 5-N-(β -hydroxyethyl)amino-2-methylphenol, 3-aminophenol, 1,3-dihydroxybenzene, 1,3-dihydroxy-2-methylbenzene, 4-chloro-1,3-dihydroxybenzene, 2-amino-4-(β -hydroxyethylamino)-1-methoxybenzene, 1,3-diaminobenzene, 1,3-bis(2,4-diaminophenoxy)propane, sesamol,

1-amino-2-methoxy-4,5-methylenedioxybenzene, α -naphthol, 6-hydroxyindole, 4-hydroxyindole, 4-hydroxy-N-methylindole, 6-hydroxyindoline, 2,6-dihydroxy-4-methylpyridine, 1-H-3-methylpyrazol-5-one, 1-phenyl-3-methylpyrazol-5-one, 2-amino-3-hydroxypyridine, 3,6-dimethylpyrazolo[3,2-c]-1,2,4-triazole, 2,6-dimethylpyrazolo[1,5-b]-1,2,4-triazole, and acid addition salts thereof.

30. A composition according to claims 27, wherein said at least one coupler is present in an amount ranging from 0.0001 to 15% by weight relative to the total weight of the composition.

31. A composition according claim 1 further comprising at least one additional oxidation base which is other than said at least one oxidation dye precursor.

32. A composition according to Claim 31, wherein said at least one additional oxidation base is chosen from: para-phenylenediamine, para-tolylenediamine, 2-hydroxyethyl-para-phenylenediamine, 1-N,N-bis(2-hydroxyethyl)-para-phenylenediamine, para-aminophenols, ortho-phenylene diamines, ortho-aminophenols, double bases, and heterocyclic bases.

33. A composition according to claim 31, wherein said additional oxidation bases is present in an amount ranging from 0.0001 to 15% by weight relative to the total weight of said composition.

34. A composition according to claim 1, wherein said medium suitable for dyeing comprises water.

35. A composition according to claim 34, wherein said medium suitable for dyeing further comprises at least one cosmetically acceptable organic solvent.

36. A composition according to Claim 35, wherein said at least one cosmetically acceptable organic solvent is chosen from alcohols, glycols and ethers of glycols.

37. A composition according to claim 35, wherein said at least one cosmetically acceptable organic solvent is present in an amount ranging from 1 to 40% by weight relative to the total weight of the composition.

38. A composition according to claim 1, further comprising sequestrants, UV-screening agents, waxes, cyclic and linear, branched and unbranched, optionally organomodified volatile and nonvolatile silicones, preservatives, ceramides, pseudoceramides, vegetable oils, mineral oils and synthetic oils, vitamins, provitamins, opacifiers, thickening agents, and cationic polymers.

39. A composition according to claim 1, further comprising at least one agent chosen from reducing agents and antioxidants.

40. A composition according to claim 39, wherein said reducing agents and antioxidants are chosen from sodium sulfite, thioglycolic acid, thiolactic acid, sodium bisulfite, dehydroascorbic acid, hydroquinone, 2-methylhydroquinone, tert-butylhydroquinone and homogentisic acid.

41. A composition according to claim 38, wherein said reducing agents and antioxidants are present in an amount ranging, from 0.05 to 1.5% by weight relative to the total weight of said composition.

42. A composition according to claim 1, further comprising at least one fatty alcohol.

43. A composition according to claim 42, wherein said at least one fatty alcohol is chosen from:
cetyl alcohol, stearyl alcohol, and oleyl alcohol.

44. A composition according to claim 42, wherein said at least one fatty alcohol is present in an amount ranging from 0.001 to 20% by weight relative to the total weight of the composition.

45. A composition according to claim 1, further comprising at least one surfactant chosen from nonionic, anionic, cationic and amphoteric surfactants.

46. A composition according to claim 45, wherein said at least one surfactant is chosen from nonionic surfactants.

47. A composition according to claim 45, wherein said at least one surfactant is present in an amount ranging from 0.1 to 20% by weight relative to the total weight of the composition.

48. A composition according to claim 1, further comprising at least one cationic polymer.

49. A composition according to claim 48, wherein said at least one cationic polymer is present in an amount ranging from 0.01% to 10% by weight relative to the total weight of the final composition.

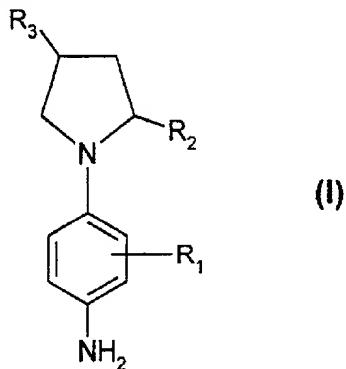
50. A composition according to claim 49, wherein said at least one cationic polymer is present in an amount ranging from 0.05% to 5% by weight relative to the total weight of the final composition.

51. A composition according to claim 50, wherein said at least one cationic polymer is present in an amount ranging from 0.1% to 3% by weight relative to the total weight of the final composition.

52. A composition according to claim 1, wherein said composition is a liquid, a powder, a cream, a gel, or in any form suitable for dyeing keratinous fibers, wherein further said composition is optionally pressurized.

53. A ready-to-use composition for oxidation dyeing keratinous fibers comprising, in an medium suitable for dyeing:

- (i) at least one oxidation dye precursor chosen from the 1-(4-aminophenyl)-pyrrolidines of formula (I) and acid addition salts thereof:



wherein:

R₁ is chosen from a hydrogen atom, ((C₁-C₆)alkyl groups,

(C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups;

R₂ is chosen from a hydrogen atom, a -CONH₂ group, (C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups;

R₃ is chosen from a hydrogen atom, and a hydroxyl group; and

- (ii) at least one direct dye chosen from nitrobenzene dyes and cationic dyes, wherein said cationic dyes comprise a quaternized nitrogen atom and a -Z=D- group wherein, Z and D, which are identical or different, are each chosen from a nitrogen atom and a -CH- group; and

(iii) at least one oxidizing agent.

54. A ready-to-use composition according to claim 53, wherein the pH ranges from 3 to 12.

55. A ready-to-use composition according to claim 54, wherein the pH ranges from 6 to 11.

56. A ready-to-use composition according to claim 55, wherein said composition is a liquid, a powder, a cream, a gel, or in any form suitable for dyeing keratinous fibers, wherein further said composition is optionally pressurized.

57. A ready-to-use composition according to claim 53, wherein said at least one oxidizing agent is chosen from hydrogen peroxide, urea peroxide, alkali metal bromates, alkali metal ferricyanides, persalts, and oxidation-reduction enzymes optionally with their corresponding donors or cofactors if appropriate.

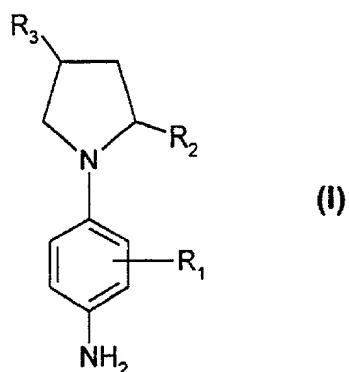
58. A ready-to-use composition according to claim 57, wherein said persalts are chosen from perborates and persulfates.

59. A ready-to-use composition according to claim 57, wherein said oxidation-reduction enzymes are chosen from laccases, peroxidases and 2 electron oxidoreductases.

60. A ready-to-use composition according to Claim 57, wherein said at least one oxidizing agent further comprises a solution of hydrogen peroxide with a titre ranging from 1 to 40 in volume.

61. A ready-to-use composition according to claim 60, wherein said solution of hydrogen peroxide has a titre ranging from 5 to 40 in volume.

62. A method for oxidation dyeing keratinous fibers comprising:
(1) applying to said fibers at least one composition (A) for oxidation dyeing of keratinous fibers comprising, in a medium suitable for dyeing:
(i) at least one oxidation dye precursor chosen from 1-(4-aminophenyl)pyrrolidines of formula (I) and acid addition salts thereof:



wherein:

R₁ is chosen from a hydrogen atom, (C₁-C₆)alkyl groups,

(C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups;

R₂ is chosen from a hydrogen atom, a -CONH₂ group, (C₁-C₅)monohydroxyalkyl groups, and(C₂-C₅)polyhydroxyalkyl groups; and

R₃ is chosen from a hydrogen atom, and a hydroxyl group; and

(ii) at least one direct dye chosen from nitrobenzene dyes and cationic dyes, wherein said cationic dyes comprise a quaternized nitrogen atom and a -Z=D- group wherein, Z and D, which are identical or different, are each chosen from a nitrogen atom and a -CH- group; and

(2) developing a color by applying to said fibers a composition (B) comprising at least one oxidizing agent, wherein:

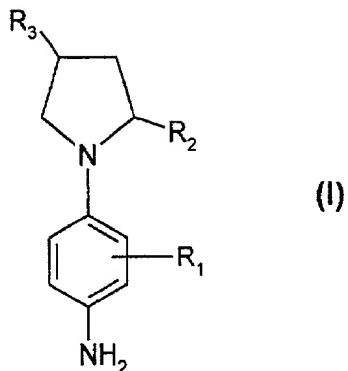
said at least one composition (B) is combined at the time of use with said at least one composition (A) or said at least one composition (B) is applied simultaneously with or immediately after, applying said at least one composition (A) without intermediate rinsing to said fibers.

63. A method for oxidation dyeing keratinous fibers, wherein said color is developed at alkaline, neutral or acidic pH.

64. A method for oxidation dyeing keratinous fibers comprising:

(1) applying to said fibers at least one composition (A) for oxidation dyeing of keratinous fibers comprising, in a medium suitable for dyeing:

(i) at least one oxidation dye precursor chosen from 1-(4-aminophenyl)pyrrolidines of formula (I) and acid addition salts thereof:



wherein:

R₁ is chosen from a hydrogen atom, (C₁-C₆)alkyl groups,

(C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups;

R₂ is chosen from a hydrogen atom, a -CONH₂ group, (C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups; and

R₃ is chosen from a hydrogen atom, and a hydroxyl group; and

(ii) at least one direct dye chosen from nitrobenzene dyes and cationic dyes, wherein said cationic dyes comprise a quaternized nitrogen atom and a -Z=D- group wherein, Z and D, which are identical or different, are each chosen from a nitrogen atom and a -CH- group; and

(2) developing a color by applying to said fibers at least one composition (B) comprising at least one oxidizing agent, wherein said at least one composition (B) is combined at the time of use with said at least one composition (A) to form a combination;

(3) leaving said combination on said fibers for a time ranging from 1 to 60 minutes;

(4) rinsing said fibers and optionally shampooing and optionally further rinsing said fibers; and

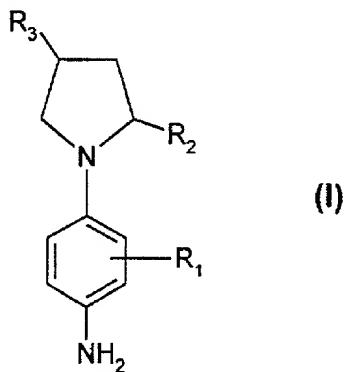
(5) drying said fibers.

65. A method for oxidation dyeing keratinous fibers according to claim 64, wherein said time ranges from 10 to 40 minutes.

66. A kit comprising at least two compartments, wherein:

(1) a first compartment comprises:

(i) at least one oxidation dye precursor chosen from 1-(4-aminophenyl)pyrrolidines of formula (I) and acid addition salts thereof:



wherein:

R₁ is chosen from a hydrogen atom, (C₁-C₆)alkyl groups, (C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups;

R₂ is chosen from a hydrogen atom, a -CONH₂ group, (C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups; and

R₃ is chosen from a hydrogen atom, and a hydroxyl group; and

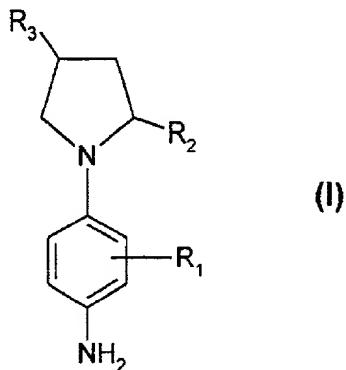
(ii) at least one direct dye chosen from nitrobenzene dyes and cationic dyes, wherein said cationic dyes comprise a quaternized nitrogen atom and a -Z=D- group wherein, Z and D, which are identical or different, are each chosen from a nitrogen atom and a -CH- group; and

(2) a second compartment comprising at least one oxidizing agent.

67. A kit comprising at least three compartments, wherein:

(1) a first compartment comprises at least one oxidation dye precursor chosen from

1-(4-aminophenyl)pyrrolidines of formula (I) and acid addition salts thereof:



wherein:

R₁ is chosen from a hydrogen atom, (C₁-C₆)alkyl groups, (C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups;

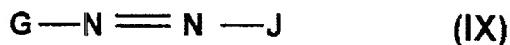
R₂ is chosen from a hydrogen atom, a -CONH₂ group, (C₁-C₅)monohydroxyalkyl groups, and (C₂-C₅)polyhydroxyalkyl groups; and

R₃ is chosen from a hydrogen atom, and a hydroxyl group;

(2) a second compartment comprises at least one direct dye chosen from nitrobenzene dyes and cationic dyes, wherein said cationic dyes comprise a quaternized nitrogen atom and a -Z=D- group wherein, Z and D, which are identical or different, are each chosen from a nitrogen atom and a -CH- group; and

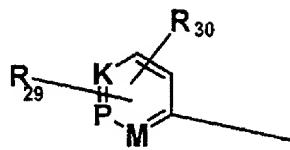
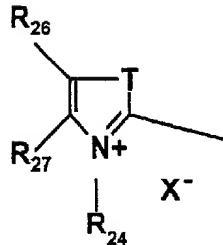
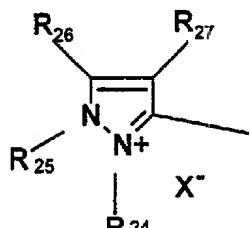
(3) a third compartment comprises at least one oxidizing agent.

68. A composition according to claim 1, wherein said cationic dyes are chosen from compounds of formulae(IX):



wherein:

G is chosen from groups of formulae G_1 , G_2 and G_3 :



wherein:

R_{24} is chosen from ($\text{C}_1\text{-C}_4$)alkyl groups, a phenyl group, wherein said phenyl group is optionally substituted with a group chosen from ($\text{C}_1\text{-C}_4$)alkyl groups, and a halogen atom chosen from chlorine, bromine, iodine and fluorine;

R_{25} is chosen from ($\text{C}_1\text{-C}_4$)alkyl groups and a phenyl group;

R_{26} is chosen from ($\text{C}_1\text{-C}_4$)alkyl groups, a hydrogen atom and a phenyl group;

R_{27} is chosen from ($\text{C}_1\text{-C}_4$)alkyl groups and a phenyl group;

provided that:

when said R₂₆ is other than a hydrogen atom, R₂₆ and R₂₇ optionally form a benzene ring,

wherein said benzene ring is optionally substituted with at least one group chosen from (C₁-C₄)alkyl groups, (C₁-C₄)alkoxy groups, and a NO₂ group;

T is chosen from an oxygen atom, a sulfur atom and a group -NR₂₅, wherein R₂₅ is defined as above;

M is chosen from a -CH group, a -CR group, wherein R is chosen from (C₁-C₄)alkyl groups, and -N⁺R₂₈(X⁻)_r groups, wherein R₂₈ is chosen from an O⁻, (C₁-C₄)alkoxy groups, and (C₁-C₄)alkyl groups and r is 0;

K is chosen from a -CH group, a -CR group, wherein R is chosen from (C₁-C₄)alkyl groups, and -N⁺R₂₈(X⁻)_r groups, wherein R₂₈ is chosen from an O⁻, (C₁-C₄)alkoxy groups, and C₁-C₄ alkyl groups and r is 0;

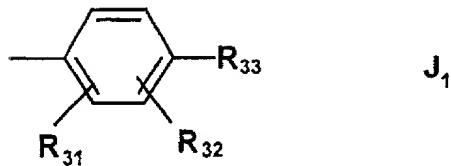
P is chosen from a -CH group, a -CR group, wherein R is chosen from (C₁-C₄)alkyl groups; and -N⁺R₂₈(X⁻)_r groups, wherein R₂₈ is chosen from an O⁻, (C₁-C₄)alkoxy groups, and (C₁-C₄)alkyl groups and r is 0;

R₂₉ and R₃₀, which are identical or different, are each chosen from a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, (C₁-C₄)alkyl groups, (C₁-C₄)alkoxy groups and an -NO₂ group;

X⁻ is an anion; and

J is chosen from:

(a) a group of formula J₁:



wherein:

R₃₁ is chosen from a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, (C₁-C₄)alkyl groups, (C₁-C₄)alkoxy groups, a hydroxyl group, an -NO₂ group, -NHR₃₄ groups, -NR₃₅R₃₆ groups and -NHCO(C₁-C₄)alkyl groups, wherein said R₃₄, said R₃₅, and said R₃₆ are defined below;

R₃₂ is chosen from a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, (C₁-C₄)alkyl groups, and (C₁-C₄)alkoxy groups;

R₃₃ is chosen from a hydrogen atom, a hydroxyl group, -NHR₃₄ groups, and -NR₃₅R₃₆ groups, wherein said R₃₄, said R₃₅, and said R₃₆ are defined below;

R₃₄ is chosen from a hydrogen atom, (C₁-C₄)alkyl groups, (C₁-C₄)monohydroxyalkyl groups, (C₂-C₄)polyhydroxyalkyl groups and a phenyl group;

R₃₅ and R₃₆, which are identical or different, are each chosen from (C₁-C₄)alkyl groups, (C₁-C₄)monohydroxyalkyl groups and (C₂-C₄)polyhydroxyalkyl groups;

wherein:

said R₃₁ and said R₃₂ optionally form a 5- or 6-membered ring, wherein said 5- or 6-membered ring optionally comprises at least one heteroatom chosen from a nitrogen atom, an oxygen atom, and a sulfur atom; and said R₃₂ and one of said R₃₃ or said R₃₄ optionally form a 5- or 6-membered ring, wherein said 5- or 6-membered ring optionally comprises at least one heteroatom chosen from a nitrogen atom, an oxygen atom, and a sulfur atom; and

-(b) a 5- or 6-membered nitrogenous heterocyclic group optionally comprising at least one unit chosen from heteroatoms and carbonyl-containing groups, wherein said 5- or 6-membered nitrogenous heterocyclic group is optionally substituted with at least one group chosen from C₁-C₄ alkyl groups, an amino group, and a phenyl group.